mental health digest

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cover story

"Quiet Cries" by Elizabeth Blake, a new one-act play about suicide prevention—the first of its kind—had its premiere with a Broadway cast in New York City recently. Commissioned by NIMH's Center for Studies of Suicide Prevention, the 30-minute play is the latest addition to the 47-drama repertoire of Plays for Living, a division of Family Service Association of America. " 'Quiet Cries' is intended to give the public a greater awareness of the extent and seriousness of the problem of suicide," said Harvey L. P. Resnik, M.D., Chief of the Center. Free copies of the play are being readied for use by amateur drama groups. The script will include careful production notes for the guidance of non-professionals, and a discussion guide will also be published with the script. Inquiries should be directed to the Center for Studies of Suicide Prevention, National Institute of Mental Health, 5454 Wisconsin Avenue, Chevy Chase, Maryland 20015.

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The *Mental Health Digest* is a monthly publication of the National Institute of Mental Health. Designed to reflect the whole spectrum of mental health and to present a broad sampling of scientific subject matter and professional points of view, the *Digest* contains condensations of selected current journal articles, reviews, Federal and State program documents, and other pertinent material.

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A Training Program in School Psychiatry

RUTH L. LAVIETES and STELLA CHESS

The practice of child psychiatry in association with educational programs has been increasing. Increasing numbers of psychiatrists are devoting portions of their time to working with schools and school problems.

Factors Responsible for the Growth of School Psychiatry

School problems have become a frequent cause of referral of children to psychiatrists and child guidance clinics. Going to school is the child's first systematic separation from home and exposure to the administrative structure of society. He needs to adjust to a strange adult and large peer group. He needs to perform tasks from which escape is difficult.

A second factor is the development of special education programs for deviant children. Formerly education and therapy were seen as separate functions; the appreciation of the therapeutic value of a good educational experience and the necessity for combining educational and therapeutic goals has led to fusion of these functions. The school is crucial, especially in strengthening perception, reality testing, intellectual mastery over anxiety, control over impulses, and coping with stress. Certain children may be particularly dependent upon a successful school experience to achieve social adaptation. The assumption of responsibility by the public schools for the education and rehabilitation of these children will necessitate greater participation of psychiatrists in these programs.

The third impetus stems from the current emphasis on community psychiatry. Community psychiatry seeks the patient where he is. Schools affect the total child population, cutting across all socioeconomic groups, with a compulsory attendance throughout childhood and adolescence and with both a legal and social hold on the child.

Need for Training in School Psychiatry

It is essential in the training of a child psychiatrist that he be aware of the child's functioning within the school. In the absence of such training, psychiatrists have had to rely on substitute methods of gaining experience in this area. Residents observe and visit schools, but these experiences represent a passive type of exposure. More commonly, the psychiatrist has had on-the-job training. Poor communication and lack of cooperation have resulted when the psychiatrist has functioned as the least experienced of the school team. A third method is to give an intensive course in school psychiatry to those child psychiatrists working in the field. Such a plan is necessary only because child psychiatrists have completed their residency without such training.

Training Program

To fill this training need New York Medical College, Flower Fifth Avenue Metropolitan Hospital Center, made training in school psychiatry a part of the child psychiatry training program.

Condensed with permission from the *Journal of the American Academy of Child Psychiatry*, 6 (1) :84–96, 1969.

The program consisted of three parts: observation of normal children in a nursery school and kindergarten of a children's center for half a day a week for two months, work placement in a public school half a day a week for five months, and in a special school for disturbed children for half a day a week for five months.

Role of Psychiatrists and Problems of Training

The role of child psychiatrists in the schools includes aiding school personnel in the education of special children of all types, acting as specialists in the detection, diagnosis, referral, and treatment of individual children with disturbed behavior; exploiting educational methodologies for the rehabilitation of deviant children; and promoting better mental health principles and practice in the handling of all school children.

What knowledge and experience can child psychiatrists bring to this role? Their training in the diagnosis and treatment of emotional disorders of childhood has limited application to the massive problems of the schools. The psychiatrist must look to his training in child development, motivational dynamics, the ranges of normal and pathological functioning, latent as well as manifest content of interaction, variations of human communication, and the vicissitudes of coping and defense mechanisms. It is the translation of this knowledge to children in school that should enhance his function as a competent child psychiatrist.

What are the problems he faces? The school is a social organization with structural hierarchies, procedures, and goals. The psychiatrist is a visitor and he must be cognizant of the school organization if he is to be welcome. His training is based on the understanding of individual patients which is then generalized into basic principles. Educational training is based on application of basic principles to groups. Physicians are traditionally concerned with deviance from the normal. Teachers are traditionally concerned with the normal child. The dichotomy is an obstacle to working jointly.

Another problem is the difference in training and background between teachers and psychiatrists. Unlike clinical disciplines in mental health, teachers are not expected to examine their motivation and its contribution to their behavior. This makes for difficulties in communication as the psychiatrist may sometimes overemphasize this factor. Another difference is the greater emphasis on cognitive factors by the educator and affective factors by the psychiatrist. Differences exist in language, methods, and specific goals as well.

Areas of Training

In this paper we focus on experiences in a special school for disturbed children. Many principles of consultation are applicable to programs in the public schools as well.

One area concerns the organization, methods, materials, and goals of the schools. A good procedure is for trainees to observe a variety of classes and teachers and to have the experience of taking over the teacher's role for a limited period of time. When the child psychiatry resident takes over the class and grapples with an alien task without recourse to therapeutic techniques, he is impressed by the differences between the two roles. He is then less

likely to offer suggestions which cannot be put into practice. The impact of this experience on the trainee is to promote empathy with the teacher.

For example, a psychiatric trainee was unable to continue a crafts program because of the disruption of one boy who teased the others, taking their materials, and deprecating their efforts. The psychiatrist understood that the boy was anxious about his performance and protected his image by aggressive and regressive distractions. He believed the boy could function well and gain self-esteem if his anxiety were reduced by individual support. He was soon forced to return to the rest of the group, who had begun to lose interest and to regress themselves. By this time most of the boys were misbehaving and, to reestablish order, the resident found himself using a louder voice and more physical intervention than he considered desirable. He was indeed glad to see the teacher return.

Psychiatrists have a tendency to emphasize individual psychopathology and its effect upon the group. Yet the group itself often shapes the behavior of the individual. Both are engaged in a transaction in which there is mutual influence. The psychiatrist who is cognizant of group factors can use them to promote desired goals even for individual children. The group has a structure and strength which is different from that of the teacher in individual interaction with the child. If the teacher were to concentrate on pulling an anxious child into the group, he could be offered such things as structured content to divert him, opportunity to identify with others instead of separating from them, nonverbal group reassurance as to his safety, and the opportunity to master a segment of structured environment, thus decreasing his vulnerability. This may shift interest away from the regressive pull of pathology through use of a modality particularly suited to the classroom.

Another area is training the psychiatrist to stress competency of the child rather than sickness. Psychiatrists offer formulations that stress the origins of psychopathology. While it is sometimes useful for teachers to know this, the teacher must essentially work with the conflict-free portions of the personality. The psychiatrist can be helpful by indicating which functions are intact and how these can be exploited educationally. For example, a teacher requests guidance with a child who is resistant to class rules and who clowns while she is teaching the group. The psychiatrist interprets this behavior as regression resulting from fears of failing in a masculine competitive role as well as disguised aggression against siblings and parents. The teacher found this was minimally useful as it put into another language what she already knew. It would be preferable to assess both ego weaknesses and strengths. If the child is prepared for the threatening situation (the challenge of learning something new) by having been familiarized with the sequence of challenges to which he will be exposed, he may perceive the decreased threat and respond accordingly. If his desire to please can be capitalized upon by the teacher with respect to herself, this gratification may exceed the gratification of regression and thus

substitute an effective coping device for an ineffective defensive one.

One task is the translation of motivational dynamics to classroom management. The psychiatrist is adept at looking beyond the symptom to the conflict which motivates it and to the defensive purpose which the behavior serves. When this is elucidated for the teacher, both teacher and psychiatrist can devise means for shifting the balance of forces that produces the undesirable symptom or for finding a substitute defensive maneuver. For example, a child, in response to a request of a teacher to sit down, hurls an obscenity. To discipline the child by saying, "That's not the way we talk in school," provides further attack. To ignore it seems inappropriate. The psychiatrist in training suggested a technique used in therapy which was to ask the child why he said that. The supervisor suggested that this might have undesirable effects since such a question implies that it is permissible to behave this way if there is a reason.

Also, the teacher's goal is to bypass the obstacle presented by the interfering behavior of the child and proceed with teaching. The psychiatrist should utilize his knowledge of the source of the behavior to aid the teacher in her goal. In this case, evidence from the history and psychiatric interviews with the child indicates that the child's oral aggressive behavior is a response to threat of deprivation from the needed yet resented parent. If the teacher can respond to the affective need of the child, the undesirable behavior might be bypassed. A teacher can perhaps prevent repetition of such behavior by giving the child evidence of forthcoming gratification. A way in which this might be done is for the teacher to offer the child some compensation when making a request, e.g., "We're going to play our interesting spelling games as soon as everyone is sitting down."

Another area is in the application of the knowledge of child development and psychopathology to program planning and curriculum. For example, the possibility of regressing to earlier stages of development is enhanced by the use of certain materials, e.g., finger paints and clay. Certain materials, such as tools, stimulate aggression.

An example in this area resulted from the resident's observation that a music period he observed left him puzzled and uneasy. This was a rhythm band in which the children accompany a record with bells, tambourine, drum, triangle, etc. While the children seemed to enjoy it, the level of excitement was high, children fought over which instruments they had and vied to see who could make the most noise. The supervisor advised the resident to analyze the episode to see what might be wrong with it despite its value with normal children. The resident was able to see that the children were not yet at the developmental level to tolerate the competitive tension of having different instruments, that their tension was augmented by the unpredictability in the way the instruments were distributed, and that the high level of sensory input produced anxiety, overstimulation, and regression in some children. He was encouraged to work toward changes with the teacher in the light of his impressions.

Understanding the consultative role is central. School consultation

is generally client centered, or patient centered, in that the consultant (psychiatrist) is asked to advise the consultee (teacher) in the management of the patient (pupil). The psychiatrist attempts to influence the behavior of the child by working through the teacher. To do this, he needs to understand the milieu which the personality of the teacher creates in the classroom and the method by which it is done. The principal's attitudes may influence the teacher in her class management. Teachers may seek consultation for supposedly external problems, but a difficult child may actually reflect internalized conflicts about achievement, identification, regression, rebelliousness, etc.

A resident in a supervisory session expressed concern about the teacher's "countertransference." There was a greedy child whose incessant efforts to grab everything—food, supplies, adult attention—aroused a withholding attitude on the teacher's part. To maintain her own defenses, she was unreasonably depriving toward the child. The supervisor acknowledged the probable validity of the resident's assessment, but wondered how a change could be effected since it was inappropriate and ineffective to deal with the teacher's psychological problems directly. The resident decided he would try to use the teacher's underlying identification with the child to promote more tolerance for him. The supervisor also helped him to see that most persons have similar defenses in one area or another. In an ensuing meeting with the teacher, the resident was able to point out how "starved" and anxious the child was, how difficult it was to deal with him since all of us, including himself, had a distaste for such behavior, and wondered speculatively whether it was possible ever to gratify such a child. Such discussion served to promote the teacher's empathy with the child, intellectual interest in the problem, and identification with the consultant's greater willingness to try to satisfy the youngster.

These are some ways in which the expertise of school psychiatry can be conveyed to the trainee, sparing him the trial and error of self-teaching and leading to effective extrapolation of the knowledge of child psychiatry to a related field. As psychiatrists and educators work together, further theoretical and practical knowledge will accrue in this area of therapeutic and preventive medicine.

A Study of Discrimination and Perceptual Learning with Retarded Readers

CLIFFORD I. WHIPPLE and FRANK KODMAN, JR.

Reading has generated interest from both educators and behavioral scientists. This study used a task similar to, but not dependent upon, reading which may distinguish between retarded and normal readers.

A sample of 60 retarded readers was selected. Each was paired with a normal reader on the basis of age, sex, grade, socioeconomic background, and intelligence. Characteristics were: For the retarded, the mean reading level was 3.12; mean grade level, 4.46; mean chronological age, 10.35 years; and mean IQ, 101.3. For the normal, the mean reading level was 5.08; mean grade level, 4.40; mean chronological age, 10.15; and mean IQ, 105.03.

Experiment I was simultaneous and successive discrimination learning. A stage about 12 × 18 inches was constructed, containing a panel that could be raised and lowered. Two identical paper cups were behind the panel. Two stimulus cards were used; one card was white with five black circles on it, the other had a large black X in the center.

The panel was raised and the subject viewed the cards, two cups, and a toy cat. He was asked to describe everything he saw. The panel was lowered and the subject told: "I am going to hide this cat under one cup. You tell me which cup it is under. There is a way for you to tell where the cat is located."

With simultaneous presentation, the subject was given a standard discrimination problem with positive and negative cues on each trial. With successive presentation, when the circle was presented, the subject had to select the left cup and when the X was presented he had to select the right cup, or vice versa.

Experiment II was concerned with perceptual learning. Nonsense scribbles were used which were differentiated from a standard stimulus. The subject was shown the standard stimulus and told: "Some of the items in the pack will be exactly like the first one. You try and tell me which ones look just like the first one."

The normal readers showed a higher rate of discrimination learning than the retarded readers, and they showed faster learning regardless of the way in which the stimuli were presented. As complexity increased, the retarded reader had greater difficulty in learning.

On the perceptual task the results show a significant difference between the retarded and normal readers for the number of errors on the first trial, number of total errors, and number of trials to criterion.

These retarded 10-year old readers appear to function in their perceptual learning ability like normal 6- to 8-year old children. The retarded reader's difficulty may reside in his attempt to learn a perceptual-motor task before he has reached the necessary level of maturational development. The results should have implications for remedial and developmental reading methods.

Condensed with permission from the *Journal of Educational Psychology*, 60 (1): 1–5, 1969.

The Human Engineer as an Agent of Change in Industrializing Nations

HAROLD P. VAN COTT and PAUL SPECTOR

What can the human engineer do to help create conditions for achieving a state of industrialization in preindustrial societies? Industrialization doesn't happen because people want it. There must first exist a climate of attitudes, beliefs, perceptions, and behavior patterns within society that permit industry to take root and grow as a natural part of society.

From studies of cultures, it may be stated that a society or an element of it will change if the following conditions are fullfilled: if the society feels needs that are not satisfied adequately by presently available cultural resources, if information in the form of new solutions is adequately presented so that it may be comprehended and grasped, and if the new solutions deliver more reward, satisfaction, or reinforcement.

A proposition underlying human learning is that the learner must be motivated. Where biological and acquired social needs are met by a culture, the impetus to social change will not exist. When there is dissatisfaction, when biological and social goals are not being met, the culture will be motivated to seek out new ways of achieving its needs. This need for change will be expressed in many forms: aggression, internal subversion, and attempts to change social, political, and economic institutions.

Condensed with permission from *Human Factors*, 10 (6) :641–647, 1968.

In the restless goal-seeking behavior of the developing nations, there is evidence that an adequate basis in individual and group motivation exists for effecting social changes. However, it cannot be assumed that existing needs will necessarily be compatible with the needs that are acquired in the process of reaching a state of advanced industrial development. Often, it will be necessary not only to acquire new habits, but to create those conditions which promote new need states.

A second prerequisite is information. Needs may be considered as diffuse states which induce goal-seeking behavior, but information acts to narrow the range of alternative behaviors which can be used to achieve a goal.

In many cases, the information necessary to shape and guide the process of social change is not available to nonindustrialized areas of developing nations. A problem of considerable importance arises in the selection of information and the media for its dissemination.

The media may span a continuum ranging in flexibility of format from simple static visual displays (such as posters and handbills) to radio with its auditory output, TV with both audio and visual output, and to a combination of TV and two-way radio. Included on this continuum is the psychologist-worker, who also is a source of information. There is another somewhat different dimension—the extent to which the

information is tailored to a specific individual or community. Still another dimension is the extent to which the recipients of information interact with an information source and influence or control the specificity and content of information which he receives.

Somewhere in the three-dimensional matrix formed by the information continuum, the "personalized" continuum, and the "interaction with source" continuum are one or more points which represent optimum conditions for achieving social change via the content of the messages that are communicated.

We cannot expect a custom to be supplanted unless it can be demonstrated to the learner that the new habit is more rewarding. In terms of social change, several reinforcement variables are of interest: the amount of effort that the learner must invest; the delay between the performance of the act and receipt of the reinforcement; the relationship between the amount of effort invested and the magnitude of the reinforcement.

In considering social change, another dimension involves the relative complexity in terms of existing cognitive and perceptual habits. Democratic political patterns, for example, are intricate and difficult to demonstrate, and it may be impractical to prove that they may be rewarding. But the advantage of a power-driven saw versus a hand-powered tool may be appreciated at once. Thus, programs have to be chosen in a hierarchical manner, selecting first those relatively simple changes with obvious benefits, a rapid return on investment, and a moderate expenditure of participant resources.

A culture may reject an innovation or accept it only partially or in modified form. Unless the culture is completely destroyed, the acceptance of changes is selective. This accounts, in part at least, for the failure of programs based on economic credits, medical aid, or technical assistance to be fully effective, for though they may treat symptoms, they must be accompanied by learning experiences which permit them to be incorporated into the nonindustrial culture.

Let us examine how theory might be implemented and take a hypothetical nation, Velia. Velia is a small nation with a rapidly growing population. Its main sources of income are from the export of cattle, hides, vegetable oils and cereals. It is rich in unmined minerals and has rivers harnessable as sources of hydroelectric power. The country is divided into six regions each with many villages. Transportation is poor. Communication is also poor. The objective of the nation is to industrialize but it lacks attitudes and habit patterns to achieve industrialization. What action program in social change might be undertaken?

The independent variables would consist of variations in types of communications devices, classes of information content, sources of reinforcement, and types of social change goals.

A sample of villages would be selected. The characteristics, problems and goals of these villages would be identified, and a set of programs common to the villages defined. These programs might include the development of a saw mill, construction of a store, or improve-

ment of products for export and sale. Next, the information necessary to effect changes would be defined and the information programs and content would be developed. The communications devices (e.g., radio, TV, etc.) would be selected, procured, and installed. These would be varied from one set of villages to another, some receiving a Community Development Worker only, others receiving a one-way TV and/or radio system, and others receiving a two-way system.

Villagers would be brought to an urban location for training as Community Development Workers by an Instructor/Coordinator Staff. These workers would make field trips to all villages to measure the progress of the improvement programs. Measures of conditions in the villages would be made before and at stages during the program to determine the impact of the methods employed.

Selection of communications media—Several criteria are of importance: psychological aspects of visual and auditory one- and two-way communication, power, supply and maintenance, enemy jamming and preemption, and cost.

The visual dimension of television enhances the communications process over and above pure auditory communication. Two-way as opposed to one-way communication offers several advantages. It may be used to issue instructions, it provides a more intimate link between the village and the transmitting agency, and it provides a better basis for effective education at the individual and group level. Television and two-way radio, used in combination, offer the greatest psychological advantage for disseminating information. It will be necessary to rely on battery pack or foot-or-hand-operated generators. Battery packs are more costly and require replacement, but they offer greater reliability.

The use of trained village personnel provides advantages that cannot be gained by an electronic device: they can provide prestige and exemplary values to the community. A change agent, if capable and suitably trained, can determine specific needs and wants, provide continuing motivation suited to individuals and situations, detect and allay or overcome problems and obstacles, interpret and emphasize information supplied by mass media, and teach certain things more effectively than the mass media.

Determining community characteristics, wants, etc.—It is essential to determine the salient characteristics of communities and individuals through surveys and observations so that messages can be tailored to real situations. If unrealistic, confusing, or offensive messages are transmitted, the recipients come to discount the source entirely or to distrust whole classes of information.

Although the primary measures of effectiveness would be the degree of participation in new practices, other indices of individual and community characteristics could be employed. Measures would be made after the risk-taking propensities, openness to new ideas, shifts in basic values, aspirations for self and family, beliefs about social organization, nationhood, etc. Indicators of community status and development would also be employed, for example, changes in income, community cohesiveness, educational facilities and attainments, communications behavior, public facilities and

services, improvements in private property, diversification of occupations and technical skills, utilization of energy sources, etc.

Selection of innovations and information characteristics—Two classes of changes are proposed: changes in attitude and belief, and changes in overt behavior. Ideological appeals, designed in consultation with government officials, would be consistent with a philosophy in which the basic human rights, equality, and freedom of action are advocated as the underlying motivation. The particular actions which people are asked to take would be advocated as concrete manifestations or tangible attempts to fulfill the underlying philosophical percepts.

Development of a detailed program of information dissemination and reinforcement—It will be necessary to develop a practical information campaign, select information materials to prepare other materials that may be necessary, e.g., radio programs, films, bulletins, posters, instruction booklets, to distribute the communications devices, etc. The esthetic appeal and comprehensibility could be tested on small samples and revisions made before full-scale campaigns are undertaken.

Selection and training of community development workers—Community development workers would be recruited from the communities to be studied. They would be trained on such topics as industrial ideology and motivation, technical aspects of the innovations to be introduced, methods for assessing community opinion, organizing community activities, training individuals, and determining and dealing with potential problems and obstacles to participation in the program.

The human engineer has much to offer the preindustrial nations in providing a smooth transition to industrialization. He can plan and participate in industrialization programs at the community level that will benefit the community and its populace. He can look forward, following industrialization, to the more classical methods used by the industrial psychologist in maintaining and improving the established industry.

Whether we like industrialization or not, it offers much in the way of the material life necessary for the people of a nation to realize their potential as individuals.

Hypnotic Recall of Aircrash Cause

BERNARD B. RAGINSKY

Hypnotic recall of "forgotten" memories has been reported many times. Another report would be of little interest unless it reported better methods, provided a better understanding of the dynamics involved, or explored a more unique problem.

This case is reported for several reasons. It deals with a repressed memory which would incriminate the patient to a very serious degree; it presents a unique opportunity to test the value of hypnotic recall; it may show the need to convey to the patient the doctor's wish as one human being to help another in great distress; it may show that in the use of hypnotic recall it is wise for the therapist to know as little as possible about known facts and details beforehand; it considers an important ethical issue.

My first contact with the patient was through the following letter [here digested]:

Dear Dr. Raginsky:

I was the Captain on a flight which crashed while conducting an instrument letdown. The circumstances were never fully made public nor was the cause ever determined, although an Inquiry Board stated "negligence" as the prime cause.

If you feel that you could be of assistance to me, I will forward the complete file for your information.

Yours sincerely,
A. B. C. Smith (Captain)

My reply was intended to set the stage if possible for a rapid and successful outcome:

Dear Captain (A. B. C. Smith):

It is theoretically possible to recall the events immediately prior to the crash. I doubt, however, if any material brought up which might clarify the situation for yourself would necessarily be legally acceptable to the Board of Inquiry. Practically, the success of this method would depend on several factors, your general personality structure and your susceptibility to depth hypnosis.

Several interviews would be necessary to determine your susceptibility and the probability of your capacity to recall the information.

Sincerely yours,
B. B. Raginsky

At the first appointment, I proceeded at once when I found that he responded well to suggestions of hand levitation and closing of the eyelids.

To determine his basic fear or anxiety and what method he used to escape from it, I had him hallucinate a very anxiety-provoking scene in a theater, then a pleasant anxiety-relieving scene. The first revealed a deep and hidden concern with heights and the second, a regression to the happy times of carefree childhood. All necessary facts were found in the first half-hour hypnotic session and confirmed the next day in another half-hour hypnotic session. The final visit was devoted to review of the findings and suggestions for his future.

Several observations seemed important.

He appeared to be very concerned with relative heights. His idea of a happy scene was a regression to childhood where children were playing happily and moving freely. For some reason he had gone down to 1600 feet instead of 2000. He appeared to be confused on this issue and tried to rationalize it. This phase of the hypnotic interview was

Condensed with permission from the *International Journal of Clinical and Experimental Hypnosis*, 17 (1) :1–19, 1969.

accompanied by more confusion than anxiety. There was no confusion but great certainty and anxiety in the admission that he did not know how to read the altimeter.

The final visit covered the history of events following the accident and his personal history prior to it. Arrangements were made for me to examine all records relating to the accident and all medical reports.

To summarize, the patient was the senior pilot of a large airline. There was nothing in his personal or medical history to suggest that he was anything but an excellent pilot. The Board of Inquiry came to the conclusion that the accident was caused by negligence on the part of the Captain.

In view of these conclusions and suspension of his flying license for a period of six months, it is not surprising that the patient remained upset. He realized that these conclusions were not based on "all the facts" but was too confused to know or to remember what the true facts were.

At this point I wrote him that I thought he should not be flying until his problems were resolved and until he felt as well as he had before the accident. I suggested that he send all his records, including the results of my findings, to the best authority he knew in order to test my strong recommendation that he stop flying at this time.

This was my last communication with the Captain. Six months later, he crashed, killing all on board. While severe turbulence was the cause of the disaster, two more prudent pilots skirted the thunderstorms and a Navy pilot had the ordeal of zig-zagging through the torrential rain and gusty wind. The Board of Inquiry in this instance found that the Captain's decision to press his luck was a "grave error."

As reconstructed, the cause of the first accident began about two to three weeks prior to the crash. He had been well and happy until he was checked out on the use of the new indicator. He did not understand it because of the new colors and the swing of the needles in the opposite directions from those he had been accustomed to in the past. (All pilots found this instrument difficult.)

I can only surmise why these facts were not brought out at the inquiry. It would seem that he was questioned while still in shock, that his colleagues and medical officers tried to find answers that would place him in the best light. Being a forthright and honest person, he could not live with the feeling that he had not told the complete truth. Hypnosis is possibly the method of choice in such cases because it protects the patient up to a point from the devastating effects of self-incrimination.

Finding the cause of the accident did not resolve the problem either for the patient or the doctor. For the patient, it started him on the road to reestablish himself and to regain the respect of his colleagues. For myself, it placed me in a quandary. It was a simple matter for me to tell him not to fly until he recovered completely, but his reply to this was "We pilots are proud bastards."

It was heartening to see how eager the instrument makers were to correct faults exposed by the investigation. In the past 12 years much has been done to reduce human factors in the cause of aircraft accidents. The human element will, however, always be present.

A Statewide Electronic Data-Processing System

GEORGE A. ULETT and IVAN W. SLETTEN

Automation has been used in business operations of psychiatric hospitals, but is only beginning to be applied in clinical areas.

In Missouri we are building a system to handle clinical and administrative data for all hospitals. It will involve 10 facilities, 8,000 employees, 12,000 resident patients, 8,000 annual new admissions, and 10,000 outpatient contacts a year. It will cost approximately $2.2 million a year. We believe that it will result in better patient care, better communications, more broad-based clinical research, and improved efficiency and economy of administration.

In Missouri, as in all states, there are difficulties in the mental hospital system. Communications in and between hospitals are slow and expensive; handwritten notes are often illegible; record-keeping reflects custodial care and is antiquated and useless; administrative and clinical departments bulge with pieces of paper that no one dares throw away.

Communications will improve when data are gathered and reported on standard forms and stored in computers, where they can be rapidly and precisely retrieved. Psychiatrists and other professionals will have to use similar terms for similar conditions. With computer terminals, information can be received almost instantaneously, no matter how far away it may be stored. Staff shortages will be relieved because many tasks can be automated, freeing personnel to do things that can be done only by people.

The computer will help in clinical research. As mental status examinations and social histories are reported in machine-readable format, sets of observations can be related statistically. Researchers can establish facts and relationships needed for a logical and scientific basis for making decisions. Factual reporting will provide information to predict treatment response, recovery rates, suicide potential, and other factors. Administratively the analysis and planning that precede installation of the system give the opportunity to evaluate administrative structure and information needs.

Before we began planning, a study was completed for a seven-year plan covering business and clinical areas. We will have an on-line system, with terminals at all hospitals; a small third-generation computer is being installed. We plan to include a large-capacity core-storage system with random-access capability. A backup facility is needed to ensure continuous performance, so we may have two units.

The administrative systems to be automated are cost accounting, property records, purchasing, inventory control, dietary planning and food inventory, food control, patient payments, personnel records, patient-fund control, payroll, and farm management.

There also are administrative tasks on the wards that can be automated: admissions, transfers, discharges, and unit censuses; sched-

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ules of appointments for testing, therapy, and various activities and of passes for home visits, screening patients for discharge planning, drug orders, suicide risk, and job placement; and controlling medication. The computer can detect inappropriate drug combinations or drugs inappropriate for certain patients, detect inappropriate allocations for a ward by comparing the allocation with the amount usually required on that ward, and create medication schedules for groups or individuals. It can work in the clinical laboratories, pharmacy, radiology department, and other service areas.

One objective will be to use automation to improve clinical decisions. We will develop objective checklists, which professionals will use rarely; the aim is to teach nonprofessionals simple, standard, and adequate methods of observing and reporting historical, behavioral, and other useful predictive facts.

It will be possible to obtain the results of patient followup. Documentation of outcome will allow us to correlate observations made at various times with clinical outcome. Comprehensive demographic, historical, psychological, behavioral, and physiological data on large numbers of patients will be stored. These facts will provide a profile of each patient that can be compared with statistically developed prototypes. For example, analyses of patients who have threatened or committed suicide will be analyzed to yield a suicide prototype. Any patient profile can then be compared with the suicide prototype, and likelihoods and probabilities can be derived.

Computer-based predictions will assist staff in selecting appropriate therapeutic modalities. Staff members will have more time to give to patient contact. Clinicians will return to being clinicians and clerical personnel will do clerical work.

Information will be immediately retrievable on patients receiving active care. Records of discharged patients will be on low-speed devices, such as magnetic tape. Such records will be available but with a slight delay to allow the record to be returned to the high-speed device.

Automation will not replace men with machines, despite superstitious beliefs held even by seasoned professionals. But if psychiatry follows the dictum of Norbert Wiener, to "Render unto man the things that are man's and unto the computer the things that are the computer's," psychiatrists and their patients will benefit greatly.

The Behavioral Significance of Pheromones in Vertebrates

KATHRYN K. GLEASON and JAMES H. REYNIERSE

Experiments with sex attractants in insects led to the concept of pheromones, a concept which may be significant for behavioral research in general. Pheromones are chemical substances secreted by organisms to the environment, which are capable of producing specific reactions within conspecific receiving organisms.

Pheromones seem to have acquired two functions: the physiological regulatory function and the communication function.

Most of the evidence for pheromones in vertebrates concerns the physiological regulatory function, especially the relationships between pheromones and reproductive physiology in mice and rats.

Lee-Boot effect—The increased incidence of spontaneous pseudopregnancy among grouped female mice, known as the Lee-Boot effect, implicated the role of pheromones. These pseudopregnancies were assumed to result from an olfactorily mediated chemical stimulus conducted through the hypothalamus to the adenohypophysis where prolactin production was affected.

Housing of female mice in groups of 30 produced significant incidences of anestrus contrasting with the usual Lee-Boot effect. Anestrus was temporary and under olfactory stimulus control, probably resulting in a specific suppression of pituitary gonadotrophic secretion. Both the Lee-Boot effect and the occurrence of anestrus under more highly crowded conditions may result from secretion of varying intensities of follicle-stimulating hormone.

Whitten effect—Descriptions of the cyclic estrous activity in mice suggest that introduction of males may prevent lengthening of estrous cycle. Presence of the male or his excreta produced reproductive synchrony characterized by a peak in matings on the third night after pairing. Failure to effect matings in females rendered anosmic implicated the necessity of olfaction. Failure to carry over the effect from cycle to cycle and ability to produce synchrony of estrus in females rendered anestrous by grouping in large numbers give credence to a pheromone interpretation.

Alteration in estrous synchrony among grouped females exposed to the urine of males, when estrous cycles are suppressed by crowding, indicated the source of the pheromone involved. Although the substance in the urine has not been identified, the pheromone is volatile and probably acts through olfactory receptors.

Breeding synchrony for other vertebrate species has been described as a function of olfactory cues, but evidence for a specific pheromone is presumptive. In domestic sheep, the presence of the ram will stimulate ovulation in ewes not in estrus. A similar phenomenon occurs in Angora goats.

Accomplishment of an event as complex as synchrony of estrus is presumed to occur as a function of two pheromones. The first would act among grouped females, result-

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ing in anestrus, and the second, from males, releasing females from such inhibition to produce cyclic activity of short duration. In grouped females, the release from the grouping conditions contributes as much to the synchronization of estrus as does exposure to the urine of males.

Bruce effect—Both pregnancies and pseudopregnancies failed when female mice were housed with or near strange males, suggesting that the smell of the strange male resulted in suppression of prolactin production normally initiated by mating. That the pheromone was olfactory was shown by the finding that housing impregnated females on nesting material used by alien males produced the implantation block, and that recently mated females with olfactory bulb ablation did not experience the effect.

The effect also occurred when spayed or alien females were used, indicating that the pheromone is the product of an androgen-dependent gland.

The evidence for pheromones as communication devices in vertebrates is less well-systematized; much is circumstantial or anecdotal. Yet the diversity of species suggests the occurrence of pheromone communication as a general phenomenon among vertebrates.

Sex attractants—The functioning of sex attractants is implied from sex recognition observed in several groups. Sex attractants actively recruit approach behavior; sex recognition requires only a discrimination based on olfactory or other chemical cues.

Male newts have chin glands which presumably secrete substances that attract members of the opposite sex. The marbled salamander uses chemical secretions to attract females to the breeding ground. The dorsal skin gland of the kangaroo rat has a similar function since its size is closely correlated with the breeding season.

Discrimination between estrous and anestrous females on the basis of chemical cues is frequent in mammals.

Both males and females, using olfactory cues, can discriminate between sexually active and inactive animals. Sources of these cues are urine or sebaceous skin glands. Intact olfactory functioning seems to be essential for initiation of mating behavior in rabbits and horses, at least for inexperienced males.

Alarm substances—Alarm substances ("Schreckstoff") resembling pheromones in vertebrates have been best documented for fish. Since the description of the odor-dependent escape reaction ("Schreckreaktion") in minnows, fright reactions have been documented for many species, and have been found particularly prevalent in the *Ostariophysi*. The alarm substance is quite likely excreted by club cells in the epidermis.

Evidence of alarm substances in mammals apart from anecdotal evidence is rare. One study proposes the operation of an olfactory factor in white rats which interferes with straight alley running performance in a manner analogous to an alarm pheromone. Additional evidence supporting the role of these olfactory cues has been obtained for differential conditioning, patterned running under patterned schedules of reward and nonreward, resistance to extinction, and spontaneous alternation in the T maze.

Trail Substances—Trail marking has been frequently described in vertebrates, but little quantitative research has been done. Trail substances likely serve several functions including alarm, sex identification, regulation of population density, and foraging purposes; these have not been isolated from the general process of trail marking. During sexual receptivity, female dogs urinate in several places, advertising their location and receptive state; when males visit these urine trails, they become excited and pursue the female. Rats leave odor trails that are followed by other rats.

Several factors favor a pheromone interpretation of trail substances. The specific information carried by the trails, the on-off nature of the signal, and the relative permanence of the chemicals responsible for trail marking in vertebrates coincide with the evidence relevant for insect trails. But vertebrate and insect trail marking are almost certainly mediated by different mechanisms, and the behavior of vertebrates following trails is probably more variable than that shown in response to insect trails.

Territoriality—The concept of territory includes marking as well as defense. While territorial demarcation may depend upon auditory signals (e.g., birdsong), or visual signals (e.g., displays), territorial defense requires the presence of the resident. Marking territories with scents has the advantage of advertising ownership even when the resident is absent. Frequently a territory is marked by several means, for example, auditory and olfactory in alligators and visual and olfactory in bears.

Territorial demarcation with scents, dung, urine or other glandular secretions usually is placed on prominent features of the environment, e.g., twigs, branches, tree stumps, and stones. Deer and antelope have a gland above the eye which produces an oily strong-smelling substance and which wards off conspecific intruders when they enter the occupied territory. East African mongooses use anal glands, titi monkeys use chest glands, rabbits use chin glands, Mongolian gerbils a midventral sebaceous gland in territorial marking. Large predatory and free-roaming species often share a large moving territory with temporal rather than spatial boundaries. Cheetah and housecats have these time-plan territories which are marked with urine. Fresh markings provide temporary boundaries which deter intruding conspecifics; older signals, while noticed, are not respected. Urination does not seem to have territorial significance in dogs or wolves, since strange dogs will enter and mark an inhabited area when the resident dog is away, while wolves defend only the area close to their den.

Evidence indicates that territorial marking is under androgen control. Establishing and defending a territory increases the probability that reproductive behavior will take place; marking a territory has a physiological regulating function controlling female estrous cycle and increases the probability that fertile matings will take place. One hormone, androgen, directly controls the reproductive competence of males and, indirectly, through territorial markings, the reproductive competence of females.

Individual recognition—Individual recognition on the basis of pheromones is a more general phenomenon than sex recognition. It is documented by evidence of mother-young recognition dependent on olfactory or chemical cues in Alaskan fur seals, goats, dogs, and jewel fish. Chemical cues also have been implicated in the retrieval behavior of female rats.

Other examples include identification of prairie dogs through the "kiss" which has an olfactory component, individual discrimination in minnows, mice which can discriminate between two males of a single inbred strain, and dogs following an individual trail.

This information cannot be construed as evidence for the functioning of specific pheromones in either maternal-young relations or individual recognition. It does indicate the presence of the olfactory acuity required for the operation of pheromones.

Research Implications

Consideration of pheromones is particularly germane to investigations of sensory processes. Aside from questions related to sensory physiology (e.g., nature of the sufficient stimulus, range of effectiveness of the sufficient stimulus, function and sensitivity of the receptor organ, etc.), research would include whether or not the receptor organs and nervous physiology are the same for physiological and communication functions of pheromones. The ecology of a species may prohibit reliance upon vision or audition while providing ideal conditions for chemoreception and chemical communication.

From an ontogenetic viewpoint, the question may be which response is the organism first able to make—secreting the pheromone in the appropriate environment or responding appropriately to the pheromone excretions of another organism? Because chemical signals are available as an information source to the sender as well as to the recipient, the question is whether or not experience in secreting a chemical stimulus is necessary for the development of the chemoreceptive acuity enabling an organism to perceive that stimulus as well as to behave in a socially appropriate manner upon being stimulated by it.

Pheromones afford an opportunity to investigate a communication system based on a unit, the pheromone, permitting quantification and identification. An index of the process of development and maintenance of a communication system which can be precisely quantified would add to knowledge of communication and language.

Finally, it would seem appropriate, in the light of evidence which implicates the effects of cues produced by pheromones, to control all aspects of the environmental situation in which experimental subjects are placed.

Internal Impulses to Aggression

K. E. Moyer

What are the internal impulses to aggressive behavior and the implications this information has for aggression control? Evidence indicates that there are basic (in a sense, built in) circuits for aggressive behavior just as there are for consummatory and sex behavior.

Much discussion about the similarity of aggressive behavior to other behaviors revolves around whether aggression is endogenously or exogenously determined. Behavior does not occur in a vacuum. A deprived animal does not make random chewing movements nor attempt to eat all available objects. Regardless of the intensity of the internal state, the animal responds to a limited set of stimuli. It eats only food objects. The aggressive subject behaves aggressively only toward a limited number of stimulus objects. The converse is also true. An animal will not engage in eating behavior or aggressive behavior unless a certain physiological state is present.

Facilitation by Brain Stimulation

When certain areas of the brain are activated, an animal will become restless and engage in exploratory behavior. If that behavior brings it into contact with food, the animal, even though satiated, will begin to eat.

An animal displays aggressive behavior by the stimulation of specific brain areas. Cats which normally do not attack rats will do so during electrical stimulation of the hypothalamus. If there is no stimulus object available, the animal explores in a restless manner, but it does not behave aggressively. The cat shows distinct and evidently unlearned preferences in the stimulus objects it will attack. An anesthetized rat will be attacked more quickly and persistently than a stuffed rat, and there is little tendency for the cat to attack a block about the size of a rat.

There is a limited amount of data on the effects of brain stimulation in man. Nothing is known about the effects on eating behavior. Somewhat more is known about aggression. A patient with an electrode implanted in the amygdaloid region became angry, hostile, and threatened to strike the experimenter when stimulated. When the current was reduced or turned off, she became mild mannered and apologetic for her aggressive behavior.

There is indirect evidence that spontaneous activity of the neurones in the temporal lobe, as well as other areas of the brain, results in aggressive behavior. In some individuals, spontaneous firing of the cells in the temporal lobe and the thalamus leads to subjective feelings of rage and the execution of incredibly violent behavior. Aggressive behavior, such as fire setting, aggressive sex behavior, murder, and other acts of violence are associated with 14/second and 6/second positive spikes in the EEG record. This assaultive aggressive

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behavior may or may not be associated with epileptic motor seizures. Even when it is, there is reason to believe that the neurohumoral substrates underlying the two behaviors are different in that they are differentially affected by brain lesions and drugs.

The most relevant question is not whether aggressive behavior can occur spontaneously as a result of the internal activation of certain brain areas, but how common is it? Perhaps it occurs in many people, but less frequently in most.

Reduction by Brain Lesions

There exist in the brains of man and animals well-integrated mechanisms which, when activated, result in complex, well-organized, well-directed behavior. Whether it is consummatory or aggressive depends on the circuit involved.

Damage to the lateral nucleus of the hypothalamus produces an animal which does not show the slightest interest in food. It will, if left alone, starve to death in the midst of plenty.

Bilateral lesions in the amygdala will surgically tame the untameable wildcat, the fierce wild Norway rat, and other innately hostile animals. Lesions in a number of other brain areas will also reduce aggressive tendencies.

In man the data are limited. Lesions in the temporal lobe, dorsomedial thalamus, posterior hypothalamus, and the anterior cingulum have been used to reduce uncontrollable hostility in man.

Facilitation by Brain Lesions

Neurological mechanisms prevent manifestation of excessive eating behavior and excessive aggressive behavior. When these mechanisms are destroyed, the individual's reaction to particular kinds of stimuli becomes excessive. Lesions in the ventromedial nucleus of the hypothalamus, for example, frequently result in hypothalamic hyperphagia. The animal eats voraciously, doubling or tripling its food intake with a resulting weight increase.

Bilateral destruction of the basal or central nucleus of the amygdala will convert a friendly, affectionate cat into one that will attack without provocation. Increased aggressive behavior has also been produced by destruction of the septal region, frontal lobes, cingulum, and portions of the hippocampus. These aggressive responses are well directed, stimulus oriented, and are not comparable to the sham rage produced by decerebration.

Specific brain lesions in man will also increase hostile tendencies.

Inhibition by Brain Stimulation

Evidence from lesion experiments is difficult to interpret because of the possibility of irritative scars. However, evidence on the role of inhibitory mechanisms in the control of eating behavior and aggressive behavior comes from brain stimulation experiments. There is considerable evidence that the types of physiological mechanisms underlying eating behavior are similar to those underlying aggressive behavior.

Eating can be inhibited by stimulation of the "satiety" center in the ventromedial hypothalamus. Septal stimulation can block eating behavior in the deprived monkey.

Brain stimulation can block aggression without interfering with

normal motor responses. Amygdaloid stimulation can block normal mousing in cats as well as predation induced by hypothalamic stimulation. Stimulation of the caudate nucleus will inhibit aggressive behavior in a male monkey. In humans, reduction of agitated, violent, psychotic behavior follows stimulation in the septal region. The behavior changes from disorganized rage to happiness and mild euphoria.

Influence of Blood Chemistry Changes

Eating is regulated by the action of components in the blood which act to produce increases in sensitivity in particular brain circuits. Glucose changes seem important in the short-run control of eating and lipids in long-run control.

It is not unreasonable to postulate a similar mechanism in the regulation of aggressive behavior. As there may be various kinds of aggression, there must be a variety of contributing regulators. Androgens in the blood stream are undoubtedly critical to the development of intermale aggression. These androgenic effects may be masked or inhibited by estrogens, at least in isolated male mice.

Female irritability is cyclical and increases during estrus in the shrew and guinea pig. Aggressiveness in the ovariectomized female guinea pig can be inhibited by a series of estrogen injections followed by an injection of progesterone. Changes in the hormone balance can inhibit maternal aggression. The domesticated mother rat will kill a frog in her cage only during lactation. This maternal aggressiveness can be abolished without interfering with the care of the young if the rat is given oestrone therapy. Hydrocortisone injections overcome the killing inhibition produced by oestrone.

Clinical endocrinology offers support for the importance of blood components in the regulation of aggressive tendencies, although care must be exercised in interpreting these data because they are not from controlled laboratory studies.

Irritability is a frequent component of the premenstrual tension syndrome in the human female and is successfully treated by the administration of progesterone. Crimes of violence by women are related to the menstrual cycle. In a study of prison inmates, 62 percent of the crimes of violence were committed during the premenstrual week and 2 percent at the end of the period. Dehydroisoandrosterone increases confidence in adolescents with feelings of inferiority and promotes aggressive responses. In patients with a history of aggressiveness, dehydroisoandrosterone is likely to produce excessive irritability and outbursts of rage. Castration reduces the asocial acts of individuals convicted of sex crimes, and the administration of stilboestrol, in some cases, provides dramatic control of both hypersexuality and irritable aggression.

Frustration and stress are likely to result in irritability and aggressive behavior. It may be that the frustration-induced irritability results from the sensitization of certain brain areas by the particular hormone balance which characterizes the stress syndrome. Both the adrenal cortex and the thyroid are intimately involved in the stress syndrome, and dysfunctions of

either gland result in increased irritability.

Influence of Learning

Learning has a strong influence on all behavior patterns. It is possible through training to inhibit all consummatory behavior, leading to the death of the organism. While there is evidence that eating behavior can be completely inhibited by training, there is some doubt that the same is true for all aggressive behavior.

Aggression Control

There are at least three approaches to the problem of aggression control. The external environment can be manipulated to reduce the number of stimuli which instigate aggression; the individual can be taught to inhibit aggressive responses; and the internal environment can be manipulated directly. Although the last approach will be dealt with here, there is no intention to imply that the first two approaches are unimportant.

Aggressive behavior in the monkey can be blocked immediately by direct stimulation of the caudate nucleus. In man, a violent, profane, destructive individual is transformed into one who is calm, friendly, and sociable by direct septal stimulation. Little is known about this method of control, but there seems little doubt that it is possible. How practical it will become is a matter of conjecture. Two developments could make it practical. One is a method to pinpoint brain stimulation without opening the skull, the second is discovery of a drug which selectively stimulates these nuclei. Both of these developments are within the realm of possibility.

Selective brain lesions may reduce or eliminate aggressive behavior. Brain surgery is being used for the control of extremely assaultive individuals.

Control can be achieved through the adjustment of hormone balances. Further understanding of the role of hormones in aggressive behavior should lead to a rational endocrine therapy for certain kinds of aggressive behavior.

Finally, drugs are a useful and practical means of altering the internal environment so that aggressive tendencies are reduced. There are chemical agents that appear to be specific inhibitors of hostility, which reduce aggression without appreciably affecting the individual's alertness or motor coordination.

We conclude that aggressive behavior is determined by an interwoven complex of internal, external, and experiential factors. The solution to the multifaceted and critical problem of the control of destructive, aggressive tendencies will only be approached when all these factors are given consideration.

The Effect of RNA, Uric Acid and Caffein on Conditioning and Activity in Rats

L. Solyom, H. E Enesco, and C. Beaulieu

The effect of yeast ribonucleic acid (RNA) was first tested for use in memory impairment on humans, in particular in cerebral arteriosclerotic and senile patients. Its effects were tested later in experimental animals. The effect of RNA has been contrasted with and found to be superior to that of hydrolyzed RNA in operant conditioning of rats. Its effect on old rats is as beneficial as on young.

The purpose of this paper is to consider the possibility of a pharmacological mode of action for RNA or for its breakdown products. Uric acid, a major breakdown product of RNA, has a chemical structure similar to caffein, a stimulant. Excess uric acid, produced by the yeast RNA, could act as a stimulant and cause the effects of RNA administration. If this were true, the effect of RNA or uric acid on operant conditioning should be similar to the effect of caffein.

Subjects were 40 female rats. They were distributed randomly into four groups of ten: saline, uric acid, RNA, and caffein. Two animals died of pneumonia; one from the RNA group and one from the saline group. Thus, 39 animals completed the conditioning phase of the experiment and 38 animals the activity tests.

All injections were given intraperitoneally at around 5 P.M. except for caffein. Daily injections were started one month prior to the experiment and continued during the experimental period. Since the blood level of caffein remains high for 6-12 hours following injection, half the animals were injected in the morning and half around noon, approximately one hour prior to their training session. This procedure was adopted so that caffein-injected animals would be tested when the stimulant effect would be greatest.

The apparatus consisted of two operant conditioning units. The conditioned stimulus was a low frequency tone, lasting for 3 minutes and terminated by an electric shock.

For three days preceding the experiment, the subjects were allowed access to water for one-half hour daily. Thereafter, all animals were placed on a 23-hour deprivation schedule with access to water during the half-hour training session and the half-hour free-drinking period which followed.

The "master training" technique was employed in teaching the animals to bar press. Following master training, the animals were placed for four days on a continuous reinforcement (CRF) schedule which was followed by 20 days of variable interval (VI) training.

For three days following the VI reinforcement schedule, the effect of the conditioned stimulus to be used during conditioned emotional response training was adapted out by presenting the conditioned stimulus

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without the unconditioned stimulus. Thirty days of CER training were then given, followed by 30 days of conditioned emotional response extinction.

Following the CER extinction, activity was measured in an activity wheel and in the "open field" test.

There was no difference among the groups during the five days of master training. During the four days of continuous reinforcement schedule the caffein-treated animals consistently bar pressed at a faster rate than animals belonging to the other groups. During the 20 days of VI reinforcement schedule the caffein group bar pressed significantly more than any other group, while the uric acid group pressed significantly less. The RNA and saline groups fell between the two extremes. The bar-pressing rate increased in all groups over the 20 days of VI training.

In the activity wheel, the caffein group was the most active and the RNA group the least active. During the "open field" test the RNA group was the least active, differing significantly from the caffein and saline groups, but not from the uric acid group. The caffein, saline, and uric acid groups did not differ significantly from each other. There was a significant decrease in the activity level of all groups over time.

The study seems to demonstrate that RNA facilitates the acquisition of a conditioned emotional response and increases the frequency of a bar-pressing response in a variable interval reinforcement schedule.

RNA exerts an effect different from that of caffein and uric acid. Since RNA effects on most parameters examined were different from the effects of both uric acid and caffein, there is no basis for assuming pharmacological similarity of the three drugs.

In an attempt to find a factor common to all the learning situations in which RNA-treated animals were superior, we compared the data in this and similar studies. RNA has facilitated the acquisition of a pole climbing response, increased the rate of bar pressing on a VI schedule, improved food-motivated learning of a T maze and enhanced learning in the Hebb-Williams maze. Food-rewarded discrimination in a Y maze and shock-motivated avoidance responses in a discrimination box were not facilitated by RNA administration.

The effect of RNA injections is not general but depends on the tasks to be learned. Future experiments where learning is separated from performance, acquisition from retention, may answer these questions.

When to Hospitalize the Alcoholic

ABRAHAM J. TWERSKI

A current trend in medicolegal thinking is to consider the alcoholic who has been picked up by the police as sick rather than criminal. As this trend intensifies, general hospitals will face increasing demands that they evaluate and treat intoxicated individuals.

The problem of when—and where—to hospitalize the alcoholic is complex. The patient's symptoms may be predominantly psychiatric, predominantly medical, or a combination of the two.

This situation is complicated by the attitudes of hospital personnel. Alcoholics are viewed as poor financial risks, "uncooperative," and upsetting to others. The result is a disposition to keep the patient out of the general hospital.

Most commonly, he will be hospitalized because of acute medical problems arising from chronic disease. In such situations the patient will have a desire to be relieved of the medical symptoms, even though he may lack motivation for dealing with his underlying psychiatric disease. Given this motivation the alcoholic will be cooperative and, if treated with sympathy and dignity, will behave in socially acceptable ways.

Understanding that admission of an alcoholic to a general medical service need not be disruptive can be reinforced by the awareness that it can have psychological value to the patient. He need not be concerned that friends, family, and employer will learn he has been in the "booby hatch." He is better able to reconstruct his personal dignity and self-respect, which are essential to recovery. For hospitalization to be of psychological benefit, there must be no subterfuge. The alcoholic's denial of his disease is one of his biggest problems, and effective psychiatric therapy can only begin when he is willing to admit that his problem is alcoholism and that he needs treatment.

Occasionally the physician will be confronted by a patient who is simply intoxicated. What he needs is to "sleep it off," and he can do this just as well at home as in the hospital.

But alcoholism, as seen in the admitting room, is rarely simple. If the patient's appearance indicates he has been drinking for several days, there is a possibility of malnutrition, withdrawal symptoms, and neuromuscular injury. Even in the absence of trauma, possibility of head injury and subdural hematoma during previous intoxication cannot be dismissed. Many alcoholics suffer from acute gastritis with emesis and hematemesis. When combined with obtundation and suppression of the cough reflex, they can lead to pneumonia.

Two other complications are liver dysfunction and delirium tremens.

For DT's the patient must be quickly and adequately sedated. Paraldehyde and chloral hydrate give good results. The phenothiazines, because of their hypotensive effects, are less desirable. Vitamins—

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especially B and C—should be used in intensive doses. Patients are likely to suffer from dehydration and often from electrolyte disturbances. Electrolyte studies should be repeated often and fluids given generously.

Some alcoholics, who are trying to abstain or "cut down," develop severe tremors and agitation and may turn to tranquilizers which they then use with the same indiscretion with which they used alcohol. Since these drugs produce physiological habituation, withdrawal symptoms can create problems; withdrawal reactions may be delayed as much as a week after abstinence from the drug.

Once the patient has been "dried out," overcome his withdrawal symptoms, and been cured of intercurrent pathologies, he is ready for discharge. But his underlying problem remains. A staff psychiatrist should discuss the need to tackle his drinking problem, whether through disulfiram treatment or through such groups as Alcoholics Anonymous. If the patient can learn to face up to the reality of his drinking problem, his psychiatric prognosis is reasonably good.

Hospital administrators must think of alcoholism as creating a community medical need in the same way childbirth does. A general hospital will have beds reserved for OB patients that ordinarily are not used for other conditions even when unfilled. The need for alcoholism beds should be approached in the same way, though preferably on a community rather than an individual hospital basis.

Should alcoholism be an insurable disease? My opinion is that it should be. The alcoholic does not drink because he likes to but because he has to. To classify alcoholism as a noninsurable disease militates against its acceptance as a disease and favors its classification as willful, antisocial, criminal behavior.

Medical insurance groups have begun taking steps toward recognizing alcoholism as a disease, and some States provide coverage for hospitalization of alcoholics. To the extent that insurability can be widened and deepened, it removes the financial factors which underlie many hospitals' reluctance to admit alcoholics and many physicians' reluctance to treat them.

Medical involvement with alcoholics can help turn attention to early detection and prevention. Physicians are well placed to elicit information on their patients' use of alcohol; they should inquire into eating and sleeping habits or changes in weight and blood pressure.

Employers are also uniquely placed to pick up clues; often they have "helped" the alcoholic by ignoring early signs. Often an employees' absenteeism is not questioned until it becomes frequent enough to interfere with business.

A good place to start is with the family. But family members not infrequently deny the problem, either because of embarrassment or because they themselves are addictogenic. The clergyman often is a valuable source of information; he may be the first person to note that an alcohol problem exists and can be a fruitful collaborator with the family physician.

Active intervention at the beginning may mean that less drastic therapy may be required. Apart from this possibility, early recognition and treatment of alcoholism may allow us to salvage a human being.

Schizophrenogenic Communication and Family Therapy

LOREN R. MOSHER

A technique of family therapy developed for families with a schizophrenic or borderline schizophrenic offspring is described here. It is hoped the description of this technique will help bridge the gap between the research with "schizogenic" families (families with a schizophrenic member) and the practice of conjoint family therapy with this type of family.

There have been reports of peculiar thinking and communication in families with a schizophrenic offspring. The focus on the role of communication in the etiology and maintenance of schizophrenic illness began with the "double bind" theory. Since then other workers have reported schizophrenogenic communication and thought in families with a member designated schizophrenic.

It would appear that these research findings have not been applied to the practice of family therapy. The approach to be described is based on ascribing a crucial etiologic and maintenance role to the peculiar patterns of thinking and communicating found in families with a schizophrenic member. It is specifically suited to the treatment of families with a schizophrenic or borderline schizophrenic child. To exemplify this technique, I will report on a family seen in weekly conjoint family therapy. The family's "transactional thought disorder" was the principal focus. I emphasized the formal structural and process aspects of the family's communication patterns.

The diagnostic evaluation sessions were mutual evaluation sessions, as the family had been asked to meet with me as someone interested in seeing families. I sought answers to six questions: Specificity Question: Did the family evidence the peculiar communication? If so, how did it work? What were the lines of communication? Selection Question: What were the splits and alignments in the family which might account for the patient (Bill) being "sick" and his sisters "well"? Maintenance Question: How was the patient maintained in his unique position in the family? Focus: Could I find a circumscribed content area around which to focus the family therapy over a brief period? Motivation: Was the family motivated enough to attend regularly if I decided to see them conjointly? Improvement: Could I derive criteria by which I could judge improvement?

During the first three sessions the following answers emerged:

Family Communication Processes (the Specificity Question)—Several times a sequence occurred which I considered specific to this family's schizophrenogenic communication. One sequence was: The topic was whether to continue the meetings; Mrs. C. says, "I might like to continue." Bill says, "You mean you want to continue?" Mother responds, "No, I didn't say I wanted to continue." She responded with an interpretation which was one of several possible, but one which dis-

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agreed with her earlier contextual indicators. Mr. C. has been gazing off into space. Bill replied with a long-winded, mildly thought-disordered speech about his being "confused." Sequences of this kind abounded in three sessisons. Bill's responses were of two types: an almost impossible-to-follow long-winded monologue or disengagement and withdrawal, presumably into fantasy. I viewed these responses to his parents' (principally his mother) disqualifications as micropsychotic episodes. The assessment of this communication sequence as pathologic and significant involves evaluation of the entire transactional context.

Selection—There was family agreement that the patient had "always" been aligned with his mother and split off from his father, who was more interested in his daughters, especially the older one.

Maintenance—Bill remained in this pathologic situation for cultural and psychologic reasons. The family is from a class where the biologic dependency is prolonged for the purposes of education. Most important was his inability to figure out what he was as contrasted with what his parents said he was.

Content area—All family members expressed concern over Bill's leaving home if he were admitted to university. We agreed that this would be our major content area.

Motivation—When I expressed interest in conjoint family treatment, their response was to ask why it would be useful to them. I formulated their communication difficulty and said that I thought they had all indicated concern over Bill's going to university. Each responded positively.

Criteria of Improvement—I derived the following parameters along which I would look for improvement: Individual Cognitive Pathology: Mother's vagueness and inconsistent messages would be less often seen. Father's shifts in the focus of attention would decrease. The patient's "thought disorder" and withdrawal would become a less frequent occurrence. Transactional Thought Disorder: They would be able to share a focus of attention. These discussions would increasingly take place without my having to intervene to maintain the focus and keep communication clear. Internalization: The family would show that they carried on discussions at home indicating that some of the therapy model had been internalized and used outside.

Middle Period of Treatment

During these sessions, I put my technique into practice. Statements which were inherently unclear were questioned and probed until everyone shared their meaning.

Disruptions of the focus of attention were active, by interjection of unrelated material or passive, by inattention. These were dealt with by not allowing the discussion to be led astray, bringing back the "absent" member. In some instances, the motivation for the disruption became the focus of the discussion, depending on the context. This seemed particularly difficult for this family to learn.

Responses invalidating the meaning of a preceding speaker were dealt with in several ways, depending on context: If the situation was one in which the person invalidated

was unable to defend his point of view, I would take up his view, restate it, and ask the responder to compare this statement with that of the original speaker. If the invalidation occurred less directly, as when a speaker changed his original position in response to a response, the inconsistency between the speaker's two statements became the focus of discussion. Ideally, the target of this gambit will learn to perceive and acknowledge that he is being invalidated and ask for clarification.

This way of dealing with families is still in the process of evolution; these maneuvers must be considered as tentative.

I confined interpretations (psychodynamic sense) to issues which could be related to the "family's problems" of Bill's leaving home and their inability to conduct a three-way discussion.

The Termination Period

These sessions were marked by feelings of hopelessness and depression. All family members spoke angrily about the clinic. The parents' social worker, who was also leaving, became a special target. To a lesser extent they were able to be angry with me. I did not feel the termination was adequately handled, as each of them had an upsurge of defensiveness, manifest by increased cognitive disorganization in Bill, more vague, confused communication from the mother, and a firmer entrenchment by the father in his "stand on your own two feet" position. But there was general agreement they had gained something even if it was only an awareness that they could discuss issues of mutual concern.

There are several ramifications of this approach. Psychotherapy with persons embarked on careers as schizophrenics is not often reported to be efficacious. This may be due in part to the fact that any cognitive clarity achieved between patient and therapist is apt to be eradicated at home. Family therapy using this model and technique would seem to be suited to situations where the patient is embroiled in the family network, usually manifest by his inability to establish an existence independent of it. This view provides evidence for the idea that relatively unstructured psychoanalytic psychotherapy requires modification when dealing with thought-disordered or potentially thought-disordered persons. A dialogue, with the therapist actively involved, emphasizing clarity and honesty, would seem to be better suited to the treatment of schizophrenia than the more conventional uninvolved, objective paradigm. In most psychotherapy the relationship is crucial. In schizophrenia, there would appear to be an additional problem wherein the schizophrenic may have difficulty using the relationship for long-term gain because he has not been provided with a cognitive framework within which to build and model his own view of himself, the world, and the people in it.

Semantic Differential Investigation of Sexually Symbolic Concepts

MORGAN WORTHY and RAY A. CRADDICK

Since Freud's work on dreams, psychologists have been concerned with the symbolic content of dreams and behavior as exhibited in projective techniques.

This research investigated the psychoanalytic point of view of the masculinity-femininity continuum of several objects, animals, parts of the body, and personal effects such as umbrella, purse, etc. Each of 18 stimulus concepts presumed to symbolize masculinity or femininity was rated on a Semantic Differential form on six scales (hard-soft; small-large; delicate-rugged; masculine-feminine; heavy-light; weak-strong) all of which had high loadings on the potency (masculine-feminine) factor.

College students (36 males and 36 females) made the ratings.

"Ship," which Freud suggested as a feminine symbol, was rated as the most masculine of all concepts, and is in direct contrast to the common reference to a ship as "she." Two other reversals of theoretical sexual symbolism were "oven" and "room" (both considered feminine from the psychoanalytic viewpoint). Conversely, concepts as "umbrella," "necktie," and "hat," which are commonly given masculine symbolic meaning in psychoanalytic literature, were rated feminine in this study.

Animals fared better in consistency of sexual symbolic meaning attributed in the literature, with all animals rated in the predicted direction. Concepts such as "plough," "dagger," and "foot" were rated masculine and "pocket," "purse," and "ear" as feminine, as theorized.

These results do not support all psychoanalytic theory regarding the sexual symbolism of certain concepts. Perhaps the criteria of "holdingness," "spaciousness" and "cavernous" generally given feminine symbolic meaning, are erroneous. Other concepts requiring further investigation of their sexual symbolic meanings are those generally given masculine meaning, perhaps in view of their shape, e.g., "umbrella" and "necktie." In our study these two objects were rated slightly feminine.

This study points to the need of further investigation of feminine and masculine meanings attributed to symbolically meaningful concepts. Further research could determine the process of acquiring the sexual meaning attributed to various concepts.

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Psychogenic Hyperventilation and Death Anxiety

HERBERT R. LAZARUS and JOHN J. KOSTAN, JR.

The most common psychosomatic syndrome for which help is requested is hyperventilation. It should be considered in the diagnosis of patients who complain chiefly of chest pain, dizziness, numbness or tingling, headache, fatigue, feelings of impending doom, dissociative states, varying degrees of reduction in level of consciousness, fear of insanity, heart disease, or fatal illness, not to mention difficulty in catching one's breath, which often is not the chief complaint.

One reason that physicians do not consider this syndrome lies in the notion that it is not serious. From an organic point of view, this is correct. Psychologically, nothing could be further from the truth.

First the physician must ask about shortness of breath in several different ways, e.g., "Have you ever felt you weren't getting enough air? Have you ever experienced rapid breathing?" He should ask about dizziness, lightheadedness, chest pains, numbness, and tingling. When doubt persists, the patient should be instructed to breathe deeply and rapidly to reproduce the presenting complaints. In addition to verifying the diagnosis, this demonstrates that the physician really understands his illness.

These patients are "running scared." They are literally afraid of dying. But the clinician must ask about this since the patient's fear of death, or thanatophobia, may be so intense that he has to deny it. This anxiety becomes generalized to the point where any conflict or violence will stimulate the psychophysiological responses. The stimulus may be provided by a newspaper, a violent act, a siren, a late phone call, or television. The sudden deaths of President Kennedy and Martin Luther King played a prominent role in the triggering of hyperventilation episodes.

Another fear is of having or developing a fatal illness, especially brain tumor or heart disease (nosophobia). When not volunteered, the physician should inquire about it, to help pin down the diagnosis, and because it sheds light on the dynamics of the situation and can be used therapeutically.

Fear of losing one's mind (lyssophobia), when elicited from the patient, can help pinpoint the diagnosis. This fear rises from several sources, chief of which is the fact that the patient recurrently feels terribly ill yet he is told by respected authority figures that there is nothing wrong. The patient begins to fear losing control of his grasp of reality. If he can't believe what his body is telling him, what can he believe?

The altered state of consciousness contributes to the fear of insanity. Commonly the hyperventilator's altered state of consciousness takes the form of a dissociative state; the patient is threatened with a loss of ego control and becomes fearful of complete disintegration, i.e., "going crazy." If there is a history of mental illness in a relative or friend, this fear is strongly reinforced. The lowering of psychic defense during

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this altered state of consciousness may result in transient psychotic symptoms.

Fear of being alone, or monophobia, is characteristic. Most patients become extremely anxious if no one is present to take care of them. The doctor receives frequent "emergency" phone calls. Mothers keep their children home from school so that someone will be there.

The remaining phobias tend to be associated with the chronic form of the illness and, though less pathognomonic, should be investigated. These are fear of open places (agoraphobia), fear of travel (hodophobia), fear of crowds (ochlophobia), and fear of being in church. Under varying circumstances the patient feels estranged from the external world.

Fear of attending church deserves special consideration because it is so common. Attending church is related to conflicts of conscience. The patient is frequently guilt-ridden because of real or imagined transgressions. Since religion is so bound up with death, anxiety about death may be an even more significant factor in the genesis of the church phobia.

It is important to establish the first precipitating event. It may be assumed that the illness first occurred in the context of real or threatened loss—through death, separation, or divorce. The relationship between loss and onset of a psychosomatic illness has been pointed out many times but in no instance is the relationship more clear-cut than in psychogenic hyperventilation. Equally distinctive is the tenacity with which the patients repress, deny, rationalize, and cover up the event itself and their disturbed reaction to it.

A common factor that ignites the hyperventilator's fuse is an actual physical trauma. Injuries of almost any kind may mobilize underlying death anxiety.

If one follows the correct diagnostic procedure, treatment has already started. The physician has ruled out any serious physical disease with a minimum of laboratory procedures and has reassured the patient that he has no serious physical disease, is not in danger of dying or losing his mind, that hyperventilation does not cause damage to the body no matter how intense or prolonged it has been, demonstrated the ways in which physical symptoms are related to hyperventilation, and spelled out the ways in which anxiety and the precipitating factors have led to hyperventilation. He must then outline the ways in which the patient's phobias are secondary to the hyperventilation. In the process of doing this, the physician must convey that he understands that the physical symptoms are very real; at the same time he must convey the fact that the physical symptomatology is secondary to emotional disturbances which created the anxiety, which in turn led to the hyperventilation.

It is not unusual for patients to feel quite secure and to require no further treatment. As soon as they realize the nature of the problem the symptoms are relieved.

But many patients require more treatment of the underlying psychological conflicts. After the physician has pinpointed the precipitating events, he can begin to understand why these events were traumatic. He must encourage the patient to dis-

cuss why the event engendered so much anxiety that hyperventilation was the only way to deal with it. This means that the physician must be patient enough, tolerant enough, and understanding enough to provide opportunity for the patient to expose fears and fantasies which precipitated the syndrome. When this has been accomplished, it is rare that any patient will again employ hyperventilation as a way of dealing with problems. If he does regress, he will be in a better position to control the anxieties involved.

It is important that the patient learn to see himself more objectively. He must understand that behind the stressful situation is his own dependency, ambivalence, and repressed emotion, both positive and negative. Like patients suffering from other psychosomatic syndromes, these people are particularly vulnerable to this kind of stress by virtue of various fixations at earlier developmental levels. Their histories are replete with all kinds of fantasies about the relationships between the sexes, primitive concepts about birth and death, archaic ideas about guilt and punishment for imagined transgressions, etc.

Knowing when to refer to a psychiatrist is important. The criteria are: when it is apparent to the physician that he is not succeeding; if there is evidence that the hyperventilation is a screen for an underlying psychotic process; if the physician's own anxiety or angry feelings prohibit him from developing the compassionate, objective relationship necessary; if depressive factors are, or threaten to become, of suicidal proportions.

When such a referral is indicated, it should be done after the relationship between the patient's physical symptoms and his psychological conflicts have been explicitly pointed out. Many of these patients refuse psychiatric consultation. One has to be careful how one refers because the patient may interpret such a referral as a confirmation of his fear of insanity.

Use of medications must be approached cautiously. Many patients develop a pathological dependency upon tranquilizers as a substitute for working through their problems. One should use only medications which have been most productive in terms of allaying anxiety and least productive in terms of undesirable side effects.

From a preventive point of view the physician can play a significant role when he is consulted to help a patient deal with a grief reaction. He must facilitate the patient's working through of the loss and reintegrating at a new, more mature, level. If he can also help the patient develop a more philosophical perspective on life and death situations, the vulnerability of the individual to this type of pathology will be diminished.

The Differential Diagnosis of the Mental Disorders of Late Life

G. VERNON DAVIES

It is important that every effort be made to classify the mental disorders of the elderly, as it is upon diagnosis that treatment and prognosis depend. In the present state of knowledge, mental disorders can be divided into two classes, organic and functional, depending on whether brain damage can be demonstrated or not.

With the exception of the confusional states, all these are chronic brain disorders or dementias.

A simple test to use in the diagnosis of dementia and as a rating of the severity of the chronic brain lesion consists of 10 questions: Where are we now? Where is this place located? What day is this? What month is this? What year is this? How old are you? When is your birthday? What year were you born? The last two questions are adapted to Australian interests: Who is on the throne of England? Who is Prime Minister of Australia? or President of the U.S.A.? In the absence of deafness or language barrier, three to eight errors are taken as presumptive evidence of moderate, and nine or ten errors of severe dementia.

Organic Group

Senile dementia—Besides being the largest group, the relentless course of senile dementia renders it one of the most tragic diseases. The dementia is accompanied by atrophy of the brain in patients in the seventh, eighth, and ninth decades. A patient of 70 years with a history of increasing loss of memory in the absence of strokes, convulsions or cerebral lesion, is probably suffering from senile dementia. If he is over 75 and loss of intellectual functioning has been slow, progressive, and nonfluctuating, the diagnosis is more positive. The course is inexorable. The patient is reduced to a vegetative existence before death brings relief. The etiology is obscure.

Arteriosclerotic dementia—This follows a degeneration of brain cells caused by infarction secondary to atherosclerosis of cerebral vessels. Onset may occur in the fifties or sixties or be delayed, and may be sudden or insidious. There may be headaches, dizziness, momentary loss of consciousness, or quick changes of mood. In many cases the cerebral arteriosclerosis is disclosed by a major cerebrovascular accident. There are cases in which a presumptive diagnosis is made on the occurrence of convulsions in a demented patient showing emotional lability and fluctuation of symptoms, with more preservation of personality than might be expected. Evidence is accumulating that the premorbid personality of these patients allows a better social adjustment than those who suffer from senile dementia.

Alcoholic dementia—In some patients, especially men, there are classical signs and symptoms of Korsakow's syndrome. The patient may exhibit a friendly, plausible

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manner, while in stages of physical deterioriation with peripheral neuritis and possibly cirrhosis of the liver. Sometimes the diagnosis is made on a history of lost jobs, broken homes, and antisocial behavior combined with heavy alcoholic intake over a number of years.

Secondary dementia—This group would normally include all dementias except the senile and presenile types, which in our present state of knowledge are regarded as primary dementias. In the classification here adopted, "secondary dementia" refers to all other conditions enumerated in the list of causative factors of acute brain disorder in which the patients do not recover and do not die.

Confusional states (acute brain disorders)—These disorders are marked by sudden onset of mental deterioration as a consequence of physical disease. The patient may already be suffering from mild chronic dementia. The outstanding symptom is disorientation with clouding of consciousness. These cases demand complete physical investigation to trace the causative factor. The physical agents capable of leading to loss of cerebral functioning fall into distinct groups. These include infection, intoxication, head injury, circulatory or metabolic disturbance, epilepsy, and tumors.

Presenile dementia—This syndrome is regarded as a primary dementia. It is marked by atrophy of the brain. This type is marked by an insidious onset of loss of intellectual faculties beginning in the late fifties. Its separation from senile dementia is justified on the grounds that the genetic influence of the latter includes the tendency to long life. As the age of onset is younger than some other dementias of late life, the patient is entitled to, and fitter to undergo, a complete neurological investigation before the final diagnosis is sustained.

Functional Group

Psychoneuroses and personality disorders—This is the most frequent psychiatric syndrome in domiciliary practice. Patients will include elderly people who have sociopathic tendencies which have intensified with aging, as well as some of the older people who have suffered—to them—severe interpersonal stress. Many elderly psychoneurotics are unhappy people. They include two groups who age unsuccessfully: the "angry," who blame their troubles on unfair treatment, and the "self-haters," who insist that every misfortune is their own fault.

The symptoms of psychoneurosis in the elderly are anxiety expressed as agitation, social withdrawal, lack of interest, loss of purpose, and relative inactivity. Hypochondriasis with its strong depressive element is most frequent.

Affective disorders (depressive illness)—In this group there is a persistent change of mood, either lowered (depression) or elevated (mania). The former is common, the latter, rare. The depressive features are intensified, and apart from diurnal fluctuation become fixed. Most patients are suffering acutely. Their feelings have taken them beyond the realm of reason; they have become psychotic. The depressive symptoms are loss of interest, sleep disturbance, difficulty in thinking and concentration, painful and suicidal thoughts, anxiety, hypo-

chondriasis, irritability, paranoid ideas in keeping with the depressed mood, and retardation. The patient may become obsessed with the worthlessness of life and long for death: in his hypochondriacal state he may feel his body is disintegrating. The diagnosis may be settled by a trial of antidepressant treatment, which is usually successful in overcoming the acute emergency arising from the depressive illness. At this age, symptoms following strongly-felt personal loss are frequent. There is need for study of loss of status in late life, as this is experienced by many who felt that they have come down in the world.

Schizophrenia—Among the older members of a mental hospital population there are long-stay patients who have grown old over their hospital years. They are not suffering from progressive cerebral damage, and their expectation of life has been shown to be normal.

Besides these, there is a group, mostly female, who exhibit paranoid features for the first time with the onset of senescence. It may be found that, although they have frequently had a good job record, they have been regarded as odd or suspicious. Their withdrawal from life interests often makes it difficult to distinguish them from those patients who are suffering from a slowly progressive senile dementia. Study of the life history of patients in these two groups may give a lead to their psychopathology.

This classification will almost certainly be revised as more study is made of the psychiatric syndromes from which older people suffer. Just as many elderly patients suffer from several physical diseases concurrently, it is not uncommon for at least two of the disorders to be present in the same patient.

Beyond these nosological doubts, the investigation of mental disorders of late life suffers the same handicap as that of many of the psychiatric illnesses of all ages. Research is equally needed on the sociological and family aspects of stress and on the molecular changes in blood and brain. Both these approaches will have to be explored before the multiple causation of senile dementia is revealed. It may be shown that a genetic factor, which renders an individual sensitive to environmental stresses and especially vulnerable to the aging processes, may have to be combated by the efforts of the social scientist, the biologist, and the psychiatrist.

Psychological Aspects of Celibacy Vocation and Self-Actualization

JOHN M. VAYHINGER

Celibacy as a socially defined and individually determined style of behavior has many causes, meanings, and effects. Because little research has been done, conclusions about its dynamics and meaning must be postponed. But celibacy as a fact can be defined and explored with the hope that objective, descriptive research designs will be developed. New understanding of celibacy can be hoped for, along with a more productive use of the single state by the military, business, the church, and where the imbalance in the male-female population within a society requires it.

Just as there is a difference between chastity and virginity, there are complexities in the notion of celibacy. It must be described as a complex personal and social condition involved with sexuality but growing out of conceptual ideals and institutional requirements, involving the entire personality as well as the deepest and unconscious selections of the individual and the institution.

Celibacy is possible, and no responsible psychologist maintains the contrary. If biological drives are generalized in their source and depend on strengthening need to arouse responses, as the learning theorists aver, then sexuality as a specific type of behavior is arrived at through a long and complicated set of learning experiences.

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The adult mature human may decide to choose goals which require a transformation of coital sexual experience. This renunciation, which is different from repression, means the redirecting of a growingly mature sexuality which is neither closed in on itself nor fixated into a repetitive and rigid patterning but one which is amenable to conscious and deliberate direction and one which can be controlled and retrained by the mature personality.

The so-called sexual drives in humans are probably manifested in at least two ways. The first is the spontaneous emotional attitude toward others based on broad indefinite sexuality. This develops into the "sentiment" of love and tenderness and is independent of sexual congress. The second involves erotic or sensual pleasures which are "attached" to appropriate masculine or feminine symbols or "stimuli" during childhood and adolescence. Among healthy, but differing, patterns or habit hierarchies might be intersexual relationships based on platonic love, or patterns of hard work and creativity in place of heterosexual relationships.

"Adult, appropriate, natural, psychologically healthy sexual behavior" may include many forms, including celibacy, for adequate sexual behavior is not limited or necessarily identified with sexual intercourse. The separation of husband and wife in times of war does not minimize the husband's masculinity simply because geography and duty

deny the male sexual contact with a female. Nor, in times of illness when one's mate is unavailable for sexual congress is masculinity diminished.

Celibacy is neither a situational necessity nor a neurotic avoidance, but is a chosen pattern of life where sexual coitus is voluntarily avoided or redirected in the interests of what the participant believes to be a higher goal in life. It usually concerns groups of persons forming a communal way of life according to rules and constitutions.

Renunciation here is not a denial of sexuality, but the redirection or conversion of sexual energies through abstinence from sexual intercourse and the rechanneling of their powerful emotional strengths into love of God and the service of mankind. This is not limited to priests and nuns, for Protestants and Jews also have their celibates.

Celibacy is something more than systematic sexual continence. It is the psychological denial of maleness and femaleness.

To conceptualize this, celibacy may be described on four levels:

Infantile celibacy which occurs when the pleasure principle remains, in Freudian language, polymorphous perverse.

Relative celibacy may be the behavior of choice when abstinence or continence may be selected for a special reason.

Total and neurotic celibacy occurs in the individual incapable of any interpersonal relationship, dominated by an agonized narcissism trapped in a compulsive need to be good, or to be devoted to duty, or to serve others but frozen in any intersubjective relationships.

And finally celibacy involving relinquishing of heterosexual intimacies for a higher goal, a true sublimation of energy, time, and love in which the emotionally healthy person finds compensation for the warmth of heterosexual relationships through conversions or transformation in the affections of God and man.

Negative celibacy occurs when an individual expresses an incompleteness or repression of heterosexual fulfillment, resting on a level of generalized relationships.

It is not that negative celibacy has no positive results, for negative celibates may understand the conflicts of marriage with infinite delicacy and be able to help married couples in their conflicts. Even negative celibacy, then, is not incompatible with living a somewhat satisfactory life, that is, one relatively unhampered by suicidal drives or unsurmountable crises.

Other forms of celibacy are many. Radical and painful doubt about virility may lead to denial of sexuality, or to alcoholism. The Don Juan flees the permanent sexual relation of responsible familyhood, able to experience coitus but impotent to construct a relationship of more than a few minutes. Some become the professional "do-gooder," others the "Mama's boy," or, finally, the clinical picture of the latent homosexual.

Keeping in mind that a basic, fundamental definition of "sexual drive" involves not specific behavior but rather an urge to respond to internal and external cues, symbols, and stimuli, we could say that existential commitment or any particular "kind" of response is not indispensable to the life or fulfill-

ment of any individual. Agreeing that the sexual drive in this general sense is powerful and real, we may hypothesize that it expresses a need to find self-fulfillment and self-realization which may be quite different from marriage, and/or sexual relations. For persons who choose this "life style," the appellation "positive celibates" is appropriate.

Positive celibates are characterized by activity and many contacts with numerous and varied relationships with persons, partially because, being single, their activity can be more extensive and time-consuming. The celibate described here enjoys a "well-established basic emotional security." This basic security, which is also the primary element in a satisfactory marriage, reflects unblocked emotional development in the primal family and the ability to establish self-identity from a natural and open love in early years, and from experiences of autonomous activity without ambiguity.

The positive celibate is able to grow steadily because he can accept the relativity of his parents and can accept a relative estimation of himself. Self-esteem and self-reliance make possible the conversion, if not the sublimation, of the more specific sexual intimacies useful in marriage into dedication to a cause, the service of God and mankind, and a love encompassed by a filial and an "agape" content beyond the eros of simple pleasure principle in favor of ego relationships.

Celibacy ought always to be seen in a complex matrix, never by itself but as one of many conditions, chosen or determined by a psychologically mature individual as a prerequisite to a preferred and worthy goal.

However, to be positive and creative, celibacy should be experienced as fulfillment between persons and within the practicant's going beyond simple heterosexual relationships. It must be related to the whole person and to the human community to which the person consecrates his activity.

It is possible that the celibate suffers little more, if different, frustrations than does the married person in whose marriage crises are inevitable. But each individual usually sees only his own crises and becomes incapable of imagining those of others. The psychologist concludes, at least until evidence demonstrates otherwise, that the basic person adjusts to and dynamically creates out of the raw materials of social environment and inner needs and the resources of the self the kind of life style and rewards that fit himself best, whether he be spouse or celibate.

There is a dearth of solid research with celibates, both feminine and masculine. While psychiatry and psychology, as well as theology, can describe specific effects of celibacy, there is a need for the carefully controlled study, designed by the objective behavioral scientist, which would compare the emotional adjustment, creativity, values served, and needs of persons involved. Studies should include celibates who remain unmarried and devoted to chosen goals other than religious —the musician, the scientist, the military man, the teacher, and the social worker.

Public Acceptance of the Mentally Ill

HAROLD P. HALPERT

Considerable attention was given to attitudes about mental illness during the late 1940's and early 1950's. With the advent of the community mental health center program, attitudes again assume critical importance.

In the past 20 years a number of surveys have been made. The general impression conveyed by these studies is that the public is better informed about mental illness than it was a decade ago and expresses more tolerant attitudes toward the mentally ill. But is increased knowledge equivalent to increased understanding? And, are more tolerant attitudes equivalent to increased acceptance of mentally ill persons in the community, home, and in the places where people work and congregate?

For some time, it was accepted that there was a relationship between educational and socioeconomic level and knowledge about mental illness. More recent surveys indicate that poorer and less well-educated people know more about mental illness than we thought, that people in the higher status groups do not know as much as we thought, or that neither group understands mental illness.

A review of several surveys shows that the public is beginning to express opinions closer to those of mental health professionals. People who derive information from more sources are more knowledgeable than their educational peers who have fewer sources.

The few studies that have focused on the relationship between occupation and attitudes about mental illness indicate that attitudes of people appear to be influenced by their dominant occupational or professional point of view. In one study educational leaders led the list and economic leaders were at the bottom in recognizing mental illness, regarding the condition as serious, and recommending mental health care. Political and legal leaders scored high in recognizing mental illness and recommending mental health care but low in regarding the condition as serious. The orientation of the religious leaders was unexpected —they scored relatively low in recognition of mental illness and recommendation of mental health care, but relatively high in regarding the condition as serious.

Studies made at intervals from 1950 to the present indicate that there has been little change in the public's reluctance or inability to seek psychiatric care for such disorders. The causes may lie in lack of resources, lack of knowledge about available resources, failure to structure difficulties in psychological terms, fear, shame, and the customary way of handling problems in one's own social milieu.

Perhaps the proximity of more mental health resources in the community will lead to changes in the way people seek help for mental illness, and these changes may in turn lead to changed attitudes.

Condensed with permission from *Public Health Reports*, 84 (1) :59–64, 1969.

The Nature of Emotional Support

G. BURNAND

If a person is faced with a potentially frightening task such as making a speech, the company of a friend may improve the delivery of the speech by his emotional support, more traditionally called moral support.

The concept of support adopted here involves a partnership between two people one of whom is active and one relatively passive. The passive partner provides support. The active partner believes or maintains the illusion that the supporter shares his goals and will go on to finish the task at hand when the active member's efforts cease. The active partner's perceptions of the dangerous consequences of failure are neutralized and can be ignored, and efficiency is maintained.

It is convenient to refer to emotional support as an "illusion." This does not mean that it is not real to the active person. By an illusion of support is meant a person's confident assumptions and belief in the behavior and omnipotent abilities of his supporter.

Support is not limited to certain types of objectives. Supportive partnerships mainly arise as follows: in training situations where the supporter allows the other to practice so as to achieve efficiency and independence, where the task can only be carried out by an individual, e.g. driving a car or pleading a case, in supervisory situations at work, and in parent-child relationships. In these situations the goals shared by the partners may vary. In the early parent-child relationship an important goal will be the avoidance of the child's pain. Among adults some other goal such as the maintenance of prestige may be dominant.

The agreement about goals which is necessary with long-term partnerships can occur only when each partner is individually consistent in what he favors. Similarly, if an active person has two or more people taking a supportive role and the latter hold different ideas about what the targets should be, a supportive relationship would be less likely to exist.

The existence of the supportive partnership depends on the active partner's ability to maintain the belief that the passive member is in a position to take over the task as well as being willing to do so. The illusion is more easily maintained when the passive member is near at hand and when positioned to the side or rear of the active member.

For the passive member to be able to carry on with the task, if called upon, he must attend to what the active member is doing. This entails the passive member being quiet and relatively immobile. Support depends not just on the relative absence of explicit demands made by the supporting partner, but also on the supporting partner's implicit demands. Quietness and limited ambitiousness of the passive partner also seem to be entailed.

It is necessary to distinguish a supportive partnership from demonstrations of sympathetic emotion and

Condensed with permission from the *British Journal of Psychiatry*, 115 (519) :139–147, 1969.

giving of praise. Both imply that the supporter is not giving complete attention to the active partner's successful task accomplishment. The active partner will only occasionally check up the comments and behavior of the supporter.

The supporter may exhibit interests which the active partner might share, but which are not part of his present behavior. This could be called support for the potential person. "Emotional support" would be confined to the active person's present behavior.

It is possible to distinguish emotional support from the provision of material aid. A parent may give a child food and shelter but be out of harmony with the child's goals, such as establishing independent activity. Although one person is active and the other passive in a supportive partnership, the relation between the two is not one of domination and submission. Entering into a supportive partnership may demand a passive role that is out of harmony with manipulative social skill. The "skill" of social support needs separating from other sorts of social skills, and from situations involving domination and competition.

On the other hand, support may involve dominating or submissive behavior by the supporter, as when a dominant and a submissive person share the goal of having one person dominant and the other submissive.

For a person to possess the ability to enter into a supportive partnership there must be some history of learning the behavior. The ability to accept support might be learned separately from the ability to adopt the passive role and provide support. An ordinary childhood would give opportunity to learn active behavior patterns when parents, older children, or peers stand by ready to come to aid.

Conditions could arise in which there is a rejection of support. If the child is disillusioned with all parental figures around him and finds no one who seems a worthy supporting figure, he may resist proferred support, and become accustomed to doing this.

Important learning of the acceptance of support takes place within play and work groups where the rules of the game or physical requirements permit only a few individuals to perform important activities at one time. Such situations would also give opportunity for learning to give support.

Ability to give support demands a tolerance of passivity. There are forerunners for passive behavior in the early experience of being fed and comforted. These involve a partnership with an active adult who shares the aim of avoiding distress, hunger, and pain. A basis of good experience in a passive role probably makes it easier to give support.

Support in Psychotherapy

The maintenance of support for a patient rests not upon the expression of sympathetic emotion or positive feeling toward a patient, but upon being a readily available and undemanding figure in the person's life and assisting him in practical ways when this is necessary. The other requirement is that the therapist must not exhibit any goals which are not attainable by the patient.

The idea that the patient holds the illusion that the therapist is omnipotent seems difficult to integrate with the idea that the therapist shall not be visibly engaged in

pursuits that the patient cannot imitate. However, the patient is interested in an illusion of the therapist's omnipotent power only in those tasks or goals which are taken on. The more restful the therapist, the easier it is for the patient to believe that omnipotent power is being held in reserve.

The condition that the therapist must not exhibit goals unattainable by the patient would tend to restrict the choice of the therapist to someone of the same sex as the patient. Also an active person might not provide much support for a passive person. However, it seems likely that, from a short-term point of view, support may be most readily accepted from someone like the supportive figures of the past. Such a therapist is also likely to enter into a symbiotic relationship with the patient, e.g., the therapist is dominant when the patient is submissive.

There is the question of the place of emotional support in interpretative therapy. The essential ingredient for support is the therapist's sharing of the patient's own effort and interest in understanding the patient himself. If statements are advanced as hypotheses for examination by patients and therapist together, then support may be retained.

Support at Work

The relationship between the supervisor and worker resembles the relationship between the worker and his parents. If a supervisor is a contented, powerful, competent person who is prepared to let others do the job, not criticizing or flattering, though concerned with the successful accomplishment of the job, and lending a hand if necessary, then support will be high. This relationship can only be entered into when the supervisor has a liking for the people in his team.

For maximum support the supervisor would have to make minimum requests, and this would not lead to maximum performance. Increasing the number of explicit and implicit requests would increase performance at the expense of support.

Several factors make it difficult for a supervisor to enter into a supportive relationship. The size of the group may interfere. In such circumstances the less he involves himself the less he destroys the illusion which workers build up around him, and the less he interferes with the derivation of support from elsewhere. Large groups and groups in stress appear to work best with a dominant leader and tight discipline, while smaller and more relaxed groups function best with less strictness and have higher output and efficiency.

The view that a person's efficiency depends on emotional support, an "illusion" of a passive but omnipotent partner who shares the tasks or goals of the person, appears to be consistent with research findings and existing psychotherapy practices.

Mental Health News Digests

TV and Social Behavior

An intensive study of the impact of television and televised violence on the behavior of children has been launched by the U.S. Public Health Service. The National Institute of Mental Health will act as technical staff for the study and will be responsible for the work of an advisory panel, the Surgeon General's Scientific Advisory Committee on Television and Social Behavior. This advisory committee will include approximately 15 psychiatrists, psychologists, sociologists, and experts in related fields.

This study will be concerned with scientific findings and will make no policy recommendations. It will thus follow the approach used by the Surgeon General's Committee on Smoking and Health. No specific time for the length of the study has been set. However, a progress report will be made by October to Senator Pastore who requested the study.

Program for Parents on Child Management in Alabama

The Madison County Mental Health Center began its course in Child Management in the Fall of 1968. Its purpose was to train parents in how to deal with their children and to prevent emotional and behavioral disorders.

A behavior modification approach was used. The parents pinpointed a specific behavioral problem in the family; established baseline data on the frequency of occurrence and plotted these data on a graph, used the methods taught in the class to "consequate" the behavior, and again plotted graphs to see if the undesirable behavior had changed.

The first course met biweekly for six two-hour sessions. Both father and mother attended. Evaluation of the course showed that six sessions were too many, that the more complex and important points needed reiterations, and that the hardest thing for parents to do was to identify and then ignore irrevelant behavior. The second course began in March 1969, and was scheduled for five instead of six sessions.

The program is under the auspices of Helen E. Storm, R.N., administrative director of the clinic, and two consulting psychologists, Daun H. Adams, Ph.D. and B. Bryce Davis, M.A.

Mental Health Developments in New Jersey

Inpatient psychiatric treatment in 16 of New Jersey's general hospitals was surveyed for a two-month period last summer by the Bureau of Mental Health Services as part of a continuous plan to develop comprehensive mental health services and ultimately to formulate a Purchase-of-Service Program. The 16 hospitals are in eight of the State's 21 counties and represent 18 percent of the general hospitals in the State.

There was a total of 1,132 admissions of which 68 percent were women. Length of stay was 8.5-18.6 days, and 92 percent of the patients went home after discharge. Only 3 percent were sent on to State hospitals. If the inpatient units had not been available, it was estimated that 59 percent would have been sent to State hospitals.

The New Jersey Board of Nursing approved the Bureau of Psychiatric Nursing Care's proposal for *practical*

nurse equivalency for all graduates of the Psychiatric Technician program in the Division's hospital.

The Division of Mental Health and Hospitals is participating actively in the *Model Cities* program in New Jersey, which ranks second of the 50 States in the number of communities designated by the Federal government as recipients of Model Cities planning grants. This participation is in line with the Division's concern with encouraging development of community mental health services as well as improving mental health in all areas.

In the Division of Mental Health and Hospitals several *construction projects* are now in the active planning stage as a result of the Capital Construction Bond issue approved by the voters last November. They include a Nurse's Training Center at Greystone State Hospital, a School and Multipurpose Building at the Arthur Brisbane Child Treatment Center, and a Children's Unit at Trenton State Hospital. Other projects involve extensive renovations and remodeling at other State hospitals.

Mental Health Developments in New York

In New York City there are four community-based *aftercare clinics* operated by the State Department of Mental Hygiene. During 1968 more than 10,000 former State mental hospital patients were treated, receiving psychotherapeutic drugs, psychotherapy, and extensive social services. The clinics have reduced the number of readmissions by offering the patients continuous services and therapy in the community.

Several State hospitals in New York have expanded their *visiting hours,* permitting longer visits as well as visits during the entire week. Staff of the hospitals feel that the new policy is not only making visits more convenient, but also is resulting in more congenial relationships with patients' families and more likelihood of earlier return of the patients to their homes.

One of the plans of the Department of Mental Hygiene divides the large mental hospitals into small *community-oriented units* in order to set up treatment facilities to serve distinct patient groups and to integrate hospital programs with local community services. During the last several weeks Creedmoor State Hospital in Queens was unitized according to geographic areas in which patients lived before they were hospitalized. Aftercare will be coordinated with the units, with patients in some of the catchment areas being treated in aftercare clinics and others at the hospital. A day hospital for some of the patients has also been started.

Construction will soon be underway on the new *rehabilitation center* at Hudson River State Hospital in Poughkeepsie. The new center will be designed to resemble a "village" with a central street along which the various activity areas will be arranged.

Mental Health Developments in Pennsylvania

The mental health and mental retardation programs of the Pennsylvania Department of Public Welfare are planned and conducted jointly under the leadership of a Deputy Secretary. At the community level county commissioners and the city of Philadelphia, advised by their own Mental Health/Mental Retardation Boards, will become responsible on July 1, 1969 for the administration

of local mental health and mental retardation services.

The *mental health program* provides preventive, rehabilitative, and aftercare services and treatment for mentally ill persons of all ages in State institutions and as outpatients in State-operated facilities. The Office of Mental Health administers 18 State mental hospitals, one State school and hospital for emotionally disturbed children, six halfway houses operated under State institutions, 11 special programs for emotionally disturbed children and adolescents in State hospitals, 33 outpatient treatment clinics operated by State facilities, one State mental health center, seven psychiatric day-night units and one research and training center. It also administers an annual subsidy to the Western Psychiatric Institute and Clinic of the University of Pittsburgh.

The *mental retardation program* provides diagnosis, care, training, and specialized education for mentally retarded individuals in State Schools and Hospitals. Nine State Schools and Hospitals and three State Diagnostic and Evaluation Centers are under the jurisdiction of the Office of Mental Retardation. The Office also administers the program of reimbursement to counties for interim care in private licensed facilities for the mentally retarded individual who is awaiting admission to a State-owned facility.

Approximately 84,600 persons are served each year, including 61,800 by State mental institutions, 18,800 at State-operated clinics and centers, 900 in psychiatric day-night units, and 3,100 at the Eastern Mental Health Reception Center. Some 57,000 volunteers give nearly 370,000 service hours yearly.

The program promotes public mental health education; enforces State mental health laws; and cooperates with other State agencies in conducting special programs in alcoholism, tuberculosis control, and narcotics addiction. On the request of regional staff of the Department it provides special consultation to community mental health agencies.

Private facilities for the mentally ill and the mentally retarded are licensed. Consultation on volunteer services and on the stimulation of community involvement in the institutional program is provided. Supervision of the county program and administration of State financial support (100 percent of the unmet cost of inpatient and day-night care and 90 percent of all other costs including county administration) will replace the current direct State grant-in-aid program for community services. Consultation is provided on the Federal construction and staffing programs, and the annual construction programs are developed for recommendation to the Federal Government.

Implementation of the 1966 Mental Health and Mental Retardation Act, mandating comprehensive and appropriate community services for every Pennsylvanian with a mental disability, is vigorously under way: only a few of the 41 county mental health/mental retardation units have still to appoint an administrator; all but one have received planning grants; and regulations covering the full range of community services available under the program were issued on November 15, 1968.

Expansion and coordination of existing services and creation of new services as needs are recognized will

be accomplished under county plans approved by the Department.

More than 71,800 *volunteers* in Pennsylvania devoted a total of 440,416 service hours to the benefit of the mentally ill and the mentally retarded during the past fiscal year. Volunteer Recognition Week was held from March 9 to March 16, 1969.

The volunteers are now serving in the chaplaincy, education, food service, industrial therapy, library, medical, nursing, occupational therapy, psychology, recreation, and social services departments.

Volunteers may work on an individual or group basis. After a training period, individuals serve regularly, usually on a weekly schedule, in an area where the need for volunteer resources has been determined. Community group volunteers serve periodically on a monthly or seasonal basis depending on institution needs and program plans.

The first Volunteer services supervisor was employed by the State in 1954. Today the Volunteer Resources program in the Department of Public Welfare coordinates services and plans, trains, supervises and evaluates volunteer activities for the Department throughout the Commonwealth.

A new treatment *service for adolescents* and their families has been started in the Family Psychiatry Division of the Eastern Pennsylvania Psychiatric Institute. The service is designed to maintain the disturbed adolescent in his home, while specifically aiming to control his disruptive symptomology.

A Day Hospital Service for adolescents has been opened providing a five-day week, peer-oriented program. The treatment program is facilitated by weekly meetings with the family and appropriate medication as needed.

Included in the program are teenagers being considered for full-time hospitalization because of severe neuroses and borderline or relatively unmanageable psychoses. Acceptance of an adolescent depends on the family's willingness to participate in the family treatment, to which the day hospital functions as an adjunct. After discharge of the adolescent from the day hospital, the treatment of the family as a unit may continue for some time.

At the Loysville Youth Center a new team approach is being used in *treating juvenile delinquents.* Previously, house parents and social workers had been in different departments. Under a new staffing pattern, houseparents report to counselors, counselors to the cottage supervisor, and supervisors to the assistant director or director. The result is that programs for each boy are developed from a consensus among all members of the team. With improved communication among the staff, the boys' attempts to manipulate houseparents against counselors have decreased.

This team approach has been incorporated into all State institutions for delinquents.

Alcoholism Research Program

A major alcoholism research program has been launched at the State University of New York, Downstate Medical Center, New York City. The five-year program will include experimental and clinical studies, training, and drug trials.

In one study, 60 newly admitted patients between the ages of 25 and

55 with at least a five-year history of alcoholism will be studied to determine the effects of experimentally induced intoxication and withdrawal on the subjects' sleep pattern, behavior, and biochemistry. The investigators will focus upon the mechanisms underlying the development of physical and psychological dependence.

Among the drugs to be tested are haloperidol, dexoxadrol, disulfiram (Antabuse), paraldehyde, and chlordiazepoxide alone and in combination with a tranquilizer and an antidepressant. The drugs will be tested in more than 1,000 alcoholics, both on a long and short-term basis. The investigators will study the effects of the drugs on gait, speech, tremulousness, hallucinations, visual and sleep disturbances, appetite, nausea, sweating and other behavioral manifestations of alcoholism.

Rats will be used to supplement the findings from human subjects. The effects of moderately heavy alcohol intake on the rat's sleep patterns, urinary excretion of biogenic amines and their metabolites and the activity of serotonin and norepinephrine in the brain will be studied.

The Downstate Medical Center alcoholism program will also include a two-year postdoctoral training program leading to a D.M.S. degree. The course is open only to medical doctors who have completed two or three years of residency in psychiatry.

Benjamin Kissin, M.D., Professor of Psychiatry at the Downstate Medical Center, is principal investigator.

Mental Health Education for Clergymen

A five-year program of continuing education in mental health for ministers, priests, and rabbis has been launched at the Christian Theological Seminary in Indianapolis, Indiana. Under the program, graduates of theological seminaries are receiving training in mental health, counseling, and community mental health services.

Because of the nature of their work, which involves extensive pastoral counseling, and their accessibility to congregants, clergymen play a role in counseling the emotionally disturbed. In a survey conducted by the Joint Commission on Mental Illness and Health in 1960, 42 percent of emotionally troubled individuals said they had a minister first about their problems.

The Indianapolis program is designed to offer two types of supervised pastoral education: continuous training (one day each week for 30 weeks) in parish settings, pastoral counseling centers and community mental health centers; and short-term workshops organized to meet the needs of clergymen at various levels of pastoral education.

Training includes guided study and research; case conferences with mental health and medical professionals; orientation on community resources and problems of referral; lectures on psychodynamics and psychopathology, and the theology of pastoral care; and supervised pastoral care and counseling.

The Project Director is Dr. Lowell G. Colston.

Training Program for Police Policy Makers

A training program for police policy makers at the Social Science Institute of the Washington University

in St. Louis provides mental health training to persons who set standards for police training. Trainees include police administrators and policy-making officials, training and planning officers in police departments, State police officers responsible for regulating or conducting police training programs, and university and junior college police administration faculties.

Training is provided in areas in which patrolmen have almost daily contact: assaultive behavior, juvenile delinquency (including truancy and runaways), urban migration, family quarrels, and mental disorders of the elderly. Special attention is paid to problems associated with alcoholics, drug addicts and abusers, sexual deviates, attempted suicides, and the mentally ill.

Officers learn new procedures for recognizing and managing mentally ill persons and referring them to community agencies which can deal more appropriately with disturbed persons.

Materials for teaching about these problem areas were developed in workshops held in 1966, the first year of the program. Participants at these workshops included senior police officials, psychiatrists, legal scholars, behavioral scientists, and rehabilitation specialists.

As a result of the workshops, brochures were developed on alcoholism, drug addiction, sexual deviancy, suicide, and mental illness. The brochures discuss latest scientific and legal findings, improved methods of coping with disturbed persons, and how to implement these new methods.

Guest lecturers representing various medical and legal specialties and the brochures are the major resource materials used in the training sessions. Trainees attend 10-day conferences. Last year, 24 police officials representing departments in every area of the country attended; about 30 officers are expected to attend future conferences. Each department sends one representative.

Program officials select trainees from all regions of the U.S. from police departments with formal training programs, and from police forces recognized to be leaders in law enforcement techniques and training.

Feedback from previous trainees indicates that the training program is resulting in practical changes being made in the everyday handling of mental and social deviants.

The pilot phase of the program will end in July 1969. The training program has been endorsed by the International Association of Police Chiefs.

St. Louis, with the ninth-largest metropolitan police department in the U.S., has long been a forerunner in innovative police programs. The inauguration of the city's Police Academy, with a curriculum similar to that of the FBI National Academy, was a major innovation in municipal police training in 1947.

More recently, the alcoholism program worked out by the St. Louis Police Academy and the Social Science Institute has evolved into a national model. Since 1963, St. Louis police have considered alcoholism a medical rather than criminal problem, being one of the first police departments in the nation to do so. Persons arrested on drunkenness charges are taken to one of the two city hospitals; if they are found to need medical treatment they are admitted to the hospital; if

not, they are returned to police custody.

As an outgrowth of that program, the Nation's first detoxification facility (an emergency care center) for "drunk-on-street" arrests was established in St. Louis in 1966. The goal of that facility is systematically to remove from jail all chronic alcoholics whose only offense has been public intoxication. About 20 percent of the chronic alcoholics treated at the center were abstinent when interviewed in the community three months after treatment.

Dr. David J. Pittman is Project Director.

Mental Health Training for Philadelphia Police

It is estimated that 90 percent of the calls for police service are from citizens who need help with problems of everyday living or with behavioral difficulties which do not involve violation of criminal statutes.

These confrontations sometimes mushroom into a major incident. To help prevent such incidents from developing and to make each policeman on the force better able to recognize and cope with emotionally disturbed persons, the Hahnemann Medical College and Hospital in Philadelphia has started a psychiatric training program for the police of that city.

By the end of this academic year, the program will have provided mental health training for about 300 of Philadelphia's 7,000 policemen. Last year, nearly 100 officers enrolled in the course.

The program consists of eight hours of training, divided into four two-hour sessions. A different facet of mental illness is discussed at each session. A film illustrating different types of abnormal behavior—suicide attempts, youth gangs, alcohol and drug addiction, and psychotic acts—introduces the officers to the course. Following the film, the policemen discuss theoretical and actual experiences in managing emotionally disturbed persons.

The program emphasizes the development of skills which can be applied practically to on-the-street situations. At the end of the eight hours of training, project officials hope that the officers will find it easier "to recognize and handle disturbed people, and to understand their own feelings about these people."

The program was developed by Dr. Warren Smith, senior clinical instructor of psychiatry, and Dr. Albert A. Bell, assistant professor of psychiatry, Hahnemann Medical College.

Mental Hospital Costs

In 1968 expenditures in the U.S. for State and county mental hospitals exceeded one and one-half billion dollars, according to a report (Provisional Patient Movement and Administrative Data-State and County Mental Hospitals-United States-July 1, 1967-June 30, 1968) prepared by the Biometey Branch, National Institute of Mental Health. Hospital expenditures have gone up although the average number of patients has decreased steadily.

While these data reflect rising personnel-patient ratios, the current emphasis on psychopharmacology and other innovations in treatment services, they are primarily related to the rapidly increasing patient turnover.

The average daily cost per patient will probably rise 10 percent or more per year. The alternative to

continuing increases in expenditures is to reduce the size of patient populations by providing community centered programs, further decreasing the average length of hospitalization, transferring chronic, custodial patients to nursing home-type facilities, and developing and expanding aftercare services for released patients. These can be accomplished through closely coordinated and centrally directed programs offering a variety of community and hospital services to the mentally disturbed and through the implementation of current and new concepts for the prevention of mental illnesses.

Conference on Student Suicide

The U. S. National Student Association held the first national conference on student suicide in January 1969. One-hundred-twenty participants representing 40 colleges and universities, and several Federal agencies, met for three days in Silver Spring, Maryland.

About 1,000 college students out of 2.6 million commit suicide each year. An additional 9,000 try to take their lives, and 90,000 threaten. These figures probably are low, due to inaccurate reporting and concealment. But suicide is known to be the third leading cause of death in the college population.

Aims of the conference were to get more accurate information on the problem of student suicide, to arouse greater awareness among academic institutions of their own responsibility for dealing effectively with the problem, to learn about preventive measures currently in use which might be generally adopted, and to recommend appropriate programs to national organizations concerned with student suicide.

Suicidology Conference

The Second Annual Conference of the American Association of Suicidology—a new organization devoted to the scientific study of suicide and suicide prevention—was held March 29 and 30, 1969, in New York City. A highlight of the conference was the premiere production of a Play for Living on suicide prevention.

The first day of the conference featured technical papers by top experts on suicide, a symposium on emergency rescue and crisis intervention services, and an address by the outgoing president, Dr. Edwin S. Shneidman.

The second day was given over to the premiere performance and discussion of "Quiet Cries," a drama about suicide prevention. The play was written by Elizabeth Blake and produced by Plays for Living, a Division of The Family Service Association of America.

"Second Chance" for College Dropouts

Bright, disturbed college dropouts will be given a second chance in an experimental program at the Hahnemann Medical College and Hospital, Philadelphia, Pa. Scientists there will evaluate the effectiveness of a work and psychotherapy program as means of preparing talented dropouts to return to school. Half the students who enter college drop out, and most of them do so because of some emotional problem. There is an urgent need to establish programs that will help especially the more gifted students return to school.

During the first three years, 30 students (10 each year) will work in a laboratory and clinical surgery program at Hahnemann's Cardiovascular Research Institute. During the two remaining years the rehabilitative techniques will be evaluated.

Students who scored very high (600 or better) on the college board aptitude exam, but who left school because of an emotional crisis, will be selected for the project. At the hospital, they will conduct research experiments, help with surgical procedures, work with physicians on special projects, and perform administrative work. At the same time, they will receive individual or group psychotherapy.

The project will test whether such active involvement in responsible, high status work, along with emotional support, will renew the students' sense of self-value and stimulate their academic interests. A preliminary program already underway indicates such a program is effective. A number of students have gone back to school after spending some time in the laboratory and getting psychiatric help at the hospital.

One talented art student, for example, tried to escape from reality by sleeping most of the time. After a year of intensive work and psychotherapy she returned to school, an enthusiastic and productive student. Other goals of the program are to encourage the young people to be self-sufficient, creative, and expressive.

Investigators will maintain contact with each student after he leaves to compare his progress with that of other dropouts who did not participate in the work-therapy program. Besides testing the program's value, the investigators hope to learn more about the relationship between emotional problems and difficulty in college, and the factors that cause capable students to drop out of school.

Dr. Victor P. Satinsky is Project Director.

Drug Abuse Secretariat

A Secretariat on Drug Abuse is being established in Canada within the Mental Health Division of the Department of National Health and Welfare. In making the decision to locate the Secretariat in this Division, the Department recognized that drug abuse is primarily a behavioral problem.

The Secretariat will be concerned with the abuse of psychoactive drugs and other material, and will bring to bear all feasible means of reducing such abuse. It is an independent entity within the Mental Health Division and acts as secretary to the Department's Committee on Drug Abuse. It is now headed by a physician, Dr. J. C. Wickett, with Dr. C. G. Farmilo, pharmacological chemist, as a special Consultant.

Drug Dependence

It is becoming increasingly evident that the pharmacological properties of a substance are not the only factors involved in the initiation and perpetuation of drug dependence and related abuse. Consequently, attention is being directed to the interactions among the drug taker, his environment, and the drugs taken in order to gain a better understanding of drug taking, and to find ways to prevent and control such behavior. In the latest report of the WHO Expert Committee on Drug Dependence, procedures for the evaluation of dependence liabil-

ity of drugs are discussed and the criteria that should be used in determining the need for drug control are set forth.

Noting that the risk to public health is the prime determining factor in deciding for or against the need for control of a particular drug, the Committee outlined ways in which such risk could be evaluated in respect of drugs already in use and of those being developed. In the "before-the-fact" situation where the drug is under study with a view to its medical use, both national and international controls may be required depending on the capacity of the drug to produce psychic or physical dependence, pharmacological studies including a comparison with a known drug having similar properties, how the drug will be marketed and the attendant risk of illicit diversion or traffic, and the form in which the drug is prepared. In the "after-the-fact" situation where the drug is already in use, both national and international controls may be required depending on the seriousness of observed adverse effects of dependence or abuse, the number and location of persons involved, the degree of spread of abuse, and the extent of illicit traffic.

The report examines the problems of the abuse of depressant, stimulant, and hallucinogenic drugs not under international control, and emphasizes the need for varying levels of control for such substances. For control purposes, a classification of these drugs according to the degree of risk of creating dependence, rather than their pharmacological properties, is suggested.

The report includes a review of the work of international bodies concerned with drug dependence and recommendations on the appropriate status of international narcotics control for a number of additional drugs of the morphine-type.

The 28-page report (WHO Expert Committee on Drug Dependence, Sixteenth Report, World Health Organization Technical Report Series, No. 407) is available for 60¢ from the American Public Health Association, Inc., 1740 Broadway, New York, N.Y. 10019.

Instrumentation in Psychology

The March 1969 *American Psychologist* is a special issue devoted to instrumentation in psychology. Prepared at the invitation of the APA's Board of Scientific Affairs and edited by Joseph B. Sidowski and Sherman Ross, it contains 29 original articles on practically all aspects of instrumentation in the behavioral sciences, a glossary of computer terminology, and a Buyer's Guide. As the editors point out, instruments are indispensable tools of science; among 138 Nobel laureates in physics and chemistry from 1901 through 1960, 112 were accorded the honor for research in which instruments were dominant. The issue is available for $1.00 from the American Psychological Association, 1200 Seventeenth Street, N.W., Washington, D.C. 20036.

Community Mental Health Center—Interim Appraisal

A new survey of federally funded community mental health centers has been completed by the Joint Information Service of the American Psychiatric Association and the National Association for Mental Health. In addition to descriptions of the Federal program, the 170-page

publication reports the findings of visits to eight centers and includes a transcript of a three-day confrontation between the authors and directors of the centers regarding the problems and issues that emerged during the field study. It also provides detailed descriptions of two highly developed centers—the Comprehensive Community Mental Health Center of Denver General Hospital and the Mid-Houston Community Mental Health Center. The *Community Mental Health Center—An Interim Appraisal* is available for $4.00 (paper) or $6.00 (cloth) from the American Psychiatric Association, 1700 Eighteenth St., N.W., Washington, D.C. 20009.

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